

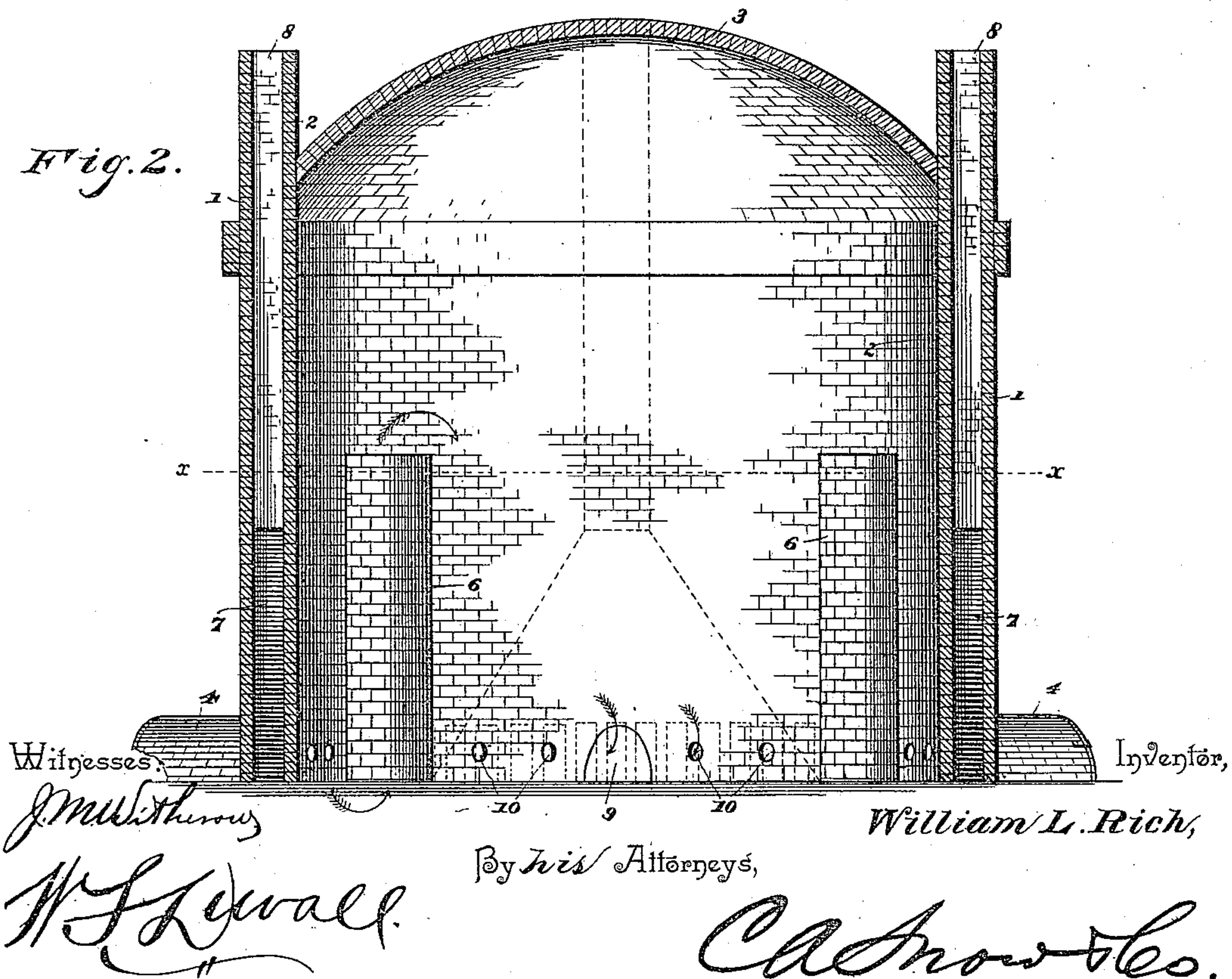
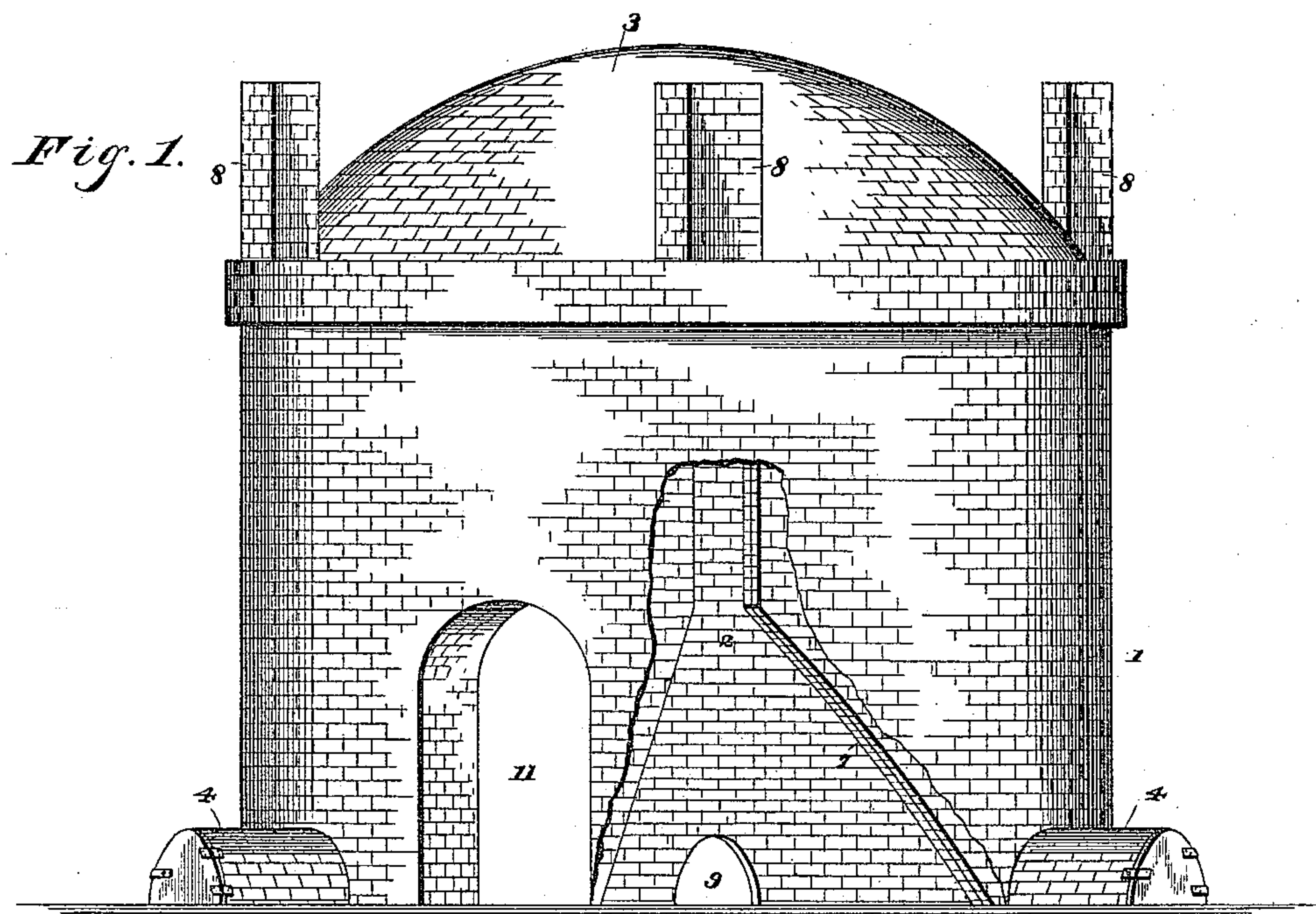
(No Model.)

2 Sheets—Sheet 1.

W. L. RICH.  
BRICK KILN.

No. 440,198.

Patented Nov. 11, 1890.





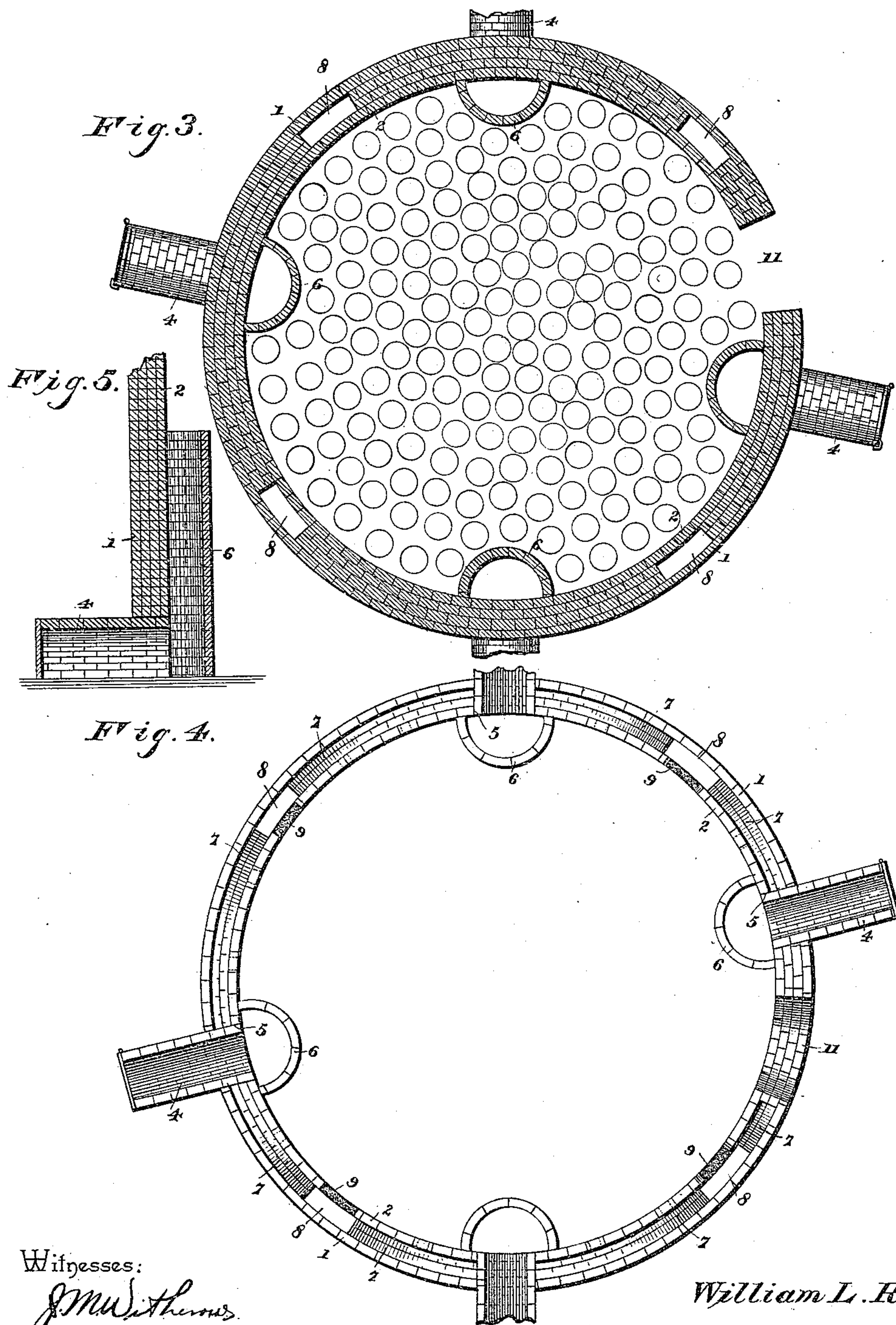
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BRICK KILN.

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Patented Nov. 11, 1890.



Witnesses:

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# UNITED STATES PATENT OFFICE.

WILLIAM L. RICH, OF JONESBOROUGH, INDIANA.

## BRICK-KILN.

SPECIFICATION forming part of Letters Patent No. 440,198, dated November 11, 1890.

Application filed March 21, 1890. Serial No. 344,819. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM L. RICH, a citizen of the United States, residing at Jonesborough, in the county of Grant and State of Indiana, have invented a new and useful Brick and Tile Kiln, of which the following is a specification.

This invention has relation to brick and tile kilns, and among the objects in view are to utilize to the greatest effect the products of combustion from the several furnaces and conduct the same circuitously through the bricks or tiles contained therein and afterward deliver the products from out the kiln.

A further object of the invention is to make the floor of the kiln of the ware to be burned, whereby there is no liability of the floor getting out of order, which is commonly the case with kilns having brick floors, and each time the kiln is filled a new floor is laid.

A further object of the invention is to construct a double-walled kiln which retains the smoke and heat from the ovens and avoids any waste.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a side elevation of a brick or tile kiln constructed in accordance with my invention. Fig. 2 is a vertical longitudinal section showing how the ware forms the bottom of the kiln. Fig. 3 is a transverse section on the line *xx*, Fig. 2. Fig. 4 is a bottom plan view. Fig. 5 is a detail section through one of the ovens and its flue.

Like numerals of reference indicate like parts in all the figures of the drawings.

1 represents the outer wall of the kiln, and 2 the inner wall thereof, each of which is of masonry and spaced apart and may be circular, square, or other shape, and surmounting said walls is a dome or roof 3. At intervals the kiln is provided with furnaces 4, which extend back to the rear wall 2, which opposite the furnaces are provided with corresponding-sized openings 5 and with vertical flues 6, extending up the inner surface of the inner wall to about the middle of the kiln. These flues are open at the top and

bottom, as shown in Fig. 5, communicating at the bottom with the ovens and at the top discharging into the interior of the kiln. Intermediate each of the furnaces there is located a gradually-converging uptake 7, terminating in a chimney 8—that is to say, the space between the inner and outer walls is traversed by converging partitions, which form a flue between each pair of ovens. (See Figs. 1 and 2.) As there are four chimneys shown in the drawings, there must of necessity be four uptakes; but I do not limit myself to the precise number. The inner wall at the base of each uptake is provided with a smoke-opening 9, and at each side of the same with a series of perforations 10 to equalize the draft and distribute the heat. The kiln is also provided with suitable door or entrance 11.

The brick or tiles are piled within the kiln in an open manner and the furnaces started, and the products of combustion are carried to the rear upflues 6 to the upper portion of the kiln, from which they take a downward course through the bricks or tiles and escape through the openings 9 and 10 into the uptakes 7 and are discharged through the chimneys 8. In this manner it will be apparent that the brick or tiles are subjected to the full influence of the products of combustion before the latter pass from the kiln.

In practice the tiles or brick are piled directly upon the ground, so that they themselves form the bottom of the kiln, and, being burned, are afterward placed upon the market. This effects a saving in the cost of the kiln-floor, as each time a new floor is provided instead of causing considerable cost is a source of revenue.

In piling the brick or tiles upon the floor the same are piled in an open manner, so as to provide open spaces between the same through which the products of combustion pass. This open piling extends upward for about a foot from the ground or bottom of the kiln. For the rest of the distance the bricks are piled as usual.

Special stress is laid upon the peculiar course of the smoke as produced by this kiln. It retains the smoke and products of combustion longer in the kiln than formerly, at



the same time insuring a perfect draft and complete combustion.

Having thus described my invention, what I claim is—

5 1. A brick and tile kiln having double walls 1 2, spaced apart and provided with a series of furnaces 4, extending from and through the outer wall and communicating with open-  
10 ings formed in the inner wall, which latter is provided with a series of flues 6, located along-  
side and terminating short of its upper end, and a series of uptakes 7, formed intermedi-  
15 ate each pair of flues, terminating at their upper ends in chimneys 8, said inner walls being provided with openings 9 opposite the  
base of the uptakes, substantially as specified.

2. A brick and tile kiln comprising double  
20 walls 1 2 and provided with a series of fur-  
naces 4, extending through the outer wall  
and communicating with openings formed in  
the inner wall, which latter is provided with  
a series of vertical flues 6, extending about  
midway the kiln, and a series of upwardly-

converging uptakes 7, one located interme-  
diate each pair of furnaces and terminating 25  
at their upper ends in chimneys 8, said inner  
walls being provided with an opening 9, and  
at each side of the opening with a series of  
draft-perforations 10, substantially as speci-  
fied. 30

3. A kiln having the inner and outer walls  
2 1 separated by a space which forms a cham-  
ber for the passage of products of combus-  
tion from the furnaces, which space is subdivided between each pair of furnaces by con- 35  
verging partitions to form uptakes 7, termi-  
nating in stacks or chimneys 8, substantially  
as specified.

In testimony that I claim the foregoing as  
my own I have hereto affixed my signature in 40  
presence of two witnesses.

WILLIAM L. RICH.

Witnesses:

JOSEPH RICH,  
JOHN L. YOUNG.