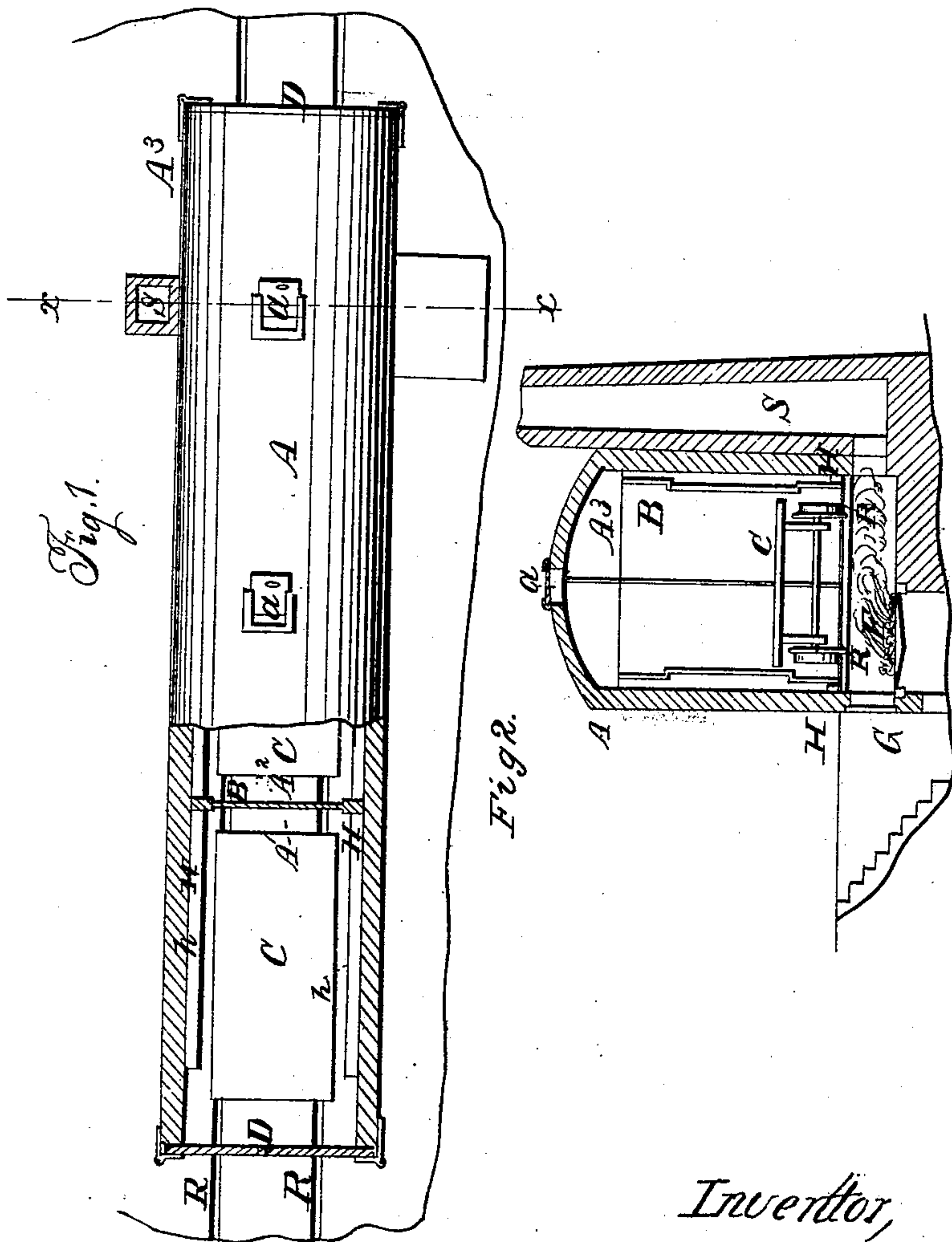


W. O. LESLIE.

Brick Kiln.

No 81,094.

Patented Aug. 18, 1868.



Witnesses;  
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# United States Patent Office.

WILLIAM O. LESLIE, OF PHILADELPHIA, PENNSYLVANIA.

*Letters Patent No. 81,094, dated August 18, 1868.*

## IMPROVED APPARATUS FOR DRYING BRICKS.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM O. LESLIE, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and improved Apparatus for Drying Bricks; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings forming part of this specification, and in which—

Figure 1 is a plan or top view of my invention, with a portion broken away so as to show the interior thereof.

Figure 2 is a transverse section of the same in line *x-x* of fig. 1.

Similar letters of reference indicate corresponding parts in the two figures.

In this invention, the bricks are dried, preparatory to placing them in the kiln, by being carried on a car into a drying-chamber and subjected to a dry air heated to about 90° Fahrenheit, thence passing to a second chamber, in which the temperature is about 100°, thence passing to a third, where the temperature is 110°, whence they are taken to the kiln. The construction and arrangement of the drying-chambers and heating-apparatus are designed to regulate the temperature of the chambers and facilitate the drying of the bricks.

In the manufacture of bricks, it is necessary to dry them gradually before placing them in the kiln. The heat to which they are subjected in this preliminary drying must not at first exceed about 90° Fahrenheit, or the bricks will crack, warp, and burst. Ordinarily the operation is performed by spreading the bricks out on a large level bed or floor, and allowing them to remain exposed to the air and sun for several days. Besides the large space required for such a process, the method is slow and attended with many difficulties, and its operation is not always satisfactory. In the summer, the bricks may be subjected to a temperature of 110°, or even, at times, 120°, if exposed to the direct rays of the sun, and at other seasons the process is impracticable for want of sufficient heat. In any season, long-continued rains delay the completion of the process, and sometimes greatly injure the bricks. The only method which will at all times work satisfactorily must be an artificial process of drying the green bricks, which the operator can regulate and control at pleasure.

I have invented an improved apparatus, consisting of the series of drying-chambers above referred to, connected with a furnace, in which the bricks can be subjected to different temperatures without inconvenience, and can be prepared for the kiln in eight hours from the time when they come from the press.

In order that others skilled in the art to which my invention appertains may be enabled to make and use the same, I will proceed to describe it in detail.

In the drawings—

A represents the drying-house, in which are three chambers, A<sup>1</sup> A<sup>2</sup> A<sup>3</sup>, separated by iron folding doors, B B. A railroad, R R, runs through the drying-house, passing through each of the three chambers. The walls of the drying-house are of brick, and its top is an arched cover of brick, provided with valve-escape doors, *a a a*, which can be opened or shut at pleasure, to regulate the escape of the hot air from the several apartments.

The ends of the drying-house are composed of large iron folding doors, D D, closing inward. The inner doors, B B, close in either direction.

F is a furnace under the chamber A<sup>3</sup>, the smoke-pipe of which discharges the products of combustion into the smoke-stack S, and the hot air from which is carried to the three apartments A<sup>1</sup> A<sup>2</sup> A<sup>3</sup>, by means of the hot-air pipes H H<sup>1</sup>, provided with openings *h<sup>1</sup> h<sup>2</sup> h<sup>3</sup>*, each of which is fitted with a hot-air register.

The furnace, hot-air pipes, and registers may be of any known form and construction. The furnace is preferably situated under the chamber A<sup>3</sup> in a basement or cellar, G, but may be situated in a room adjoining the side walls of that chamber.

The bricks are loaded on cars C C C, in such a manner that the hot air can penetrate among them, and a car, with its load, is conveyed on the railroad to the first chamber, A<sup>1</sup>, where it is subjected for three hours to a temperature of about 90° Fahrenheit. The car is then conveyed to the next chamber, A<sup>2</sup>, a fresh car taking its vacated place in chamber A<sup>1</sup>, and it is in this middle chamber subjected for three hours more to a temperature



of 100°. It is then conveyed to the third and last chamber, A<sup>3</sup>, where it is subjected for two hours to a temperature of 110°, when the car is taken through the door, at the end opposite to which it entered the drying-house, and conveyed to the kiln, where it discharges its contents. In this manner all the chambers are in use at the same time, and the hot air that may escape from one to the other is not lost, but utilized in the latter. The heat in the several chambers can be perfectly regulated by the registers connected with the hot-air pipes, and the moist air charged with the dampness given off from the bricks will escape through the openings *a a a* in the roof of the house, while a constant current of dry air from below takes its place around the cars.

By this process the bricks will be perfectly prepared for the kiln in eight hours from leaving the machine without regard to the season, climate, or condition of the weather, and with less waste and loss of material from cracking, warping, &c., than by the old method.

I am aware that the several devices above described, when considered separately, and to some extent even their combination, cannot be held to be new; but

What I claim as new, and desire to secure by Letters Patent, is—

The drying-house above described, consisting of the brick building A, having the compartments A<sup>1</sup> A<sup>2</sup> A<sup>3</sup>, the furnace F, the hot-air pipes H H<sup>1</sup>, the registers *h<sup>1</sup> h<sup>2</sup> h<sup>3</sup>*, the valve-doors *a a a*, the doors B B and D D, and the railroad R R, all constructed, combined, and arranged substantially in the manner and for the purpose specified.

WM. O. LESLIE.

Witnesses:

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