

(No Model.)

J. C. KINZEL.

METHOD OF DRYING AND BURNING BRICK.

No. 485,199.

Patented Nov. 1, 1892.

FIG-1-

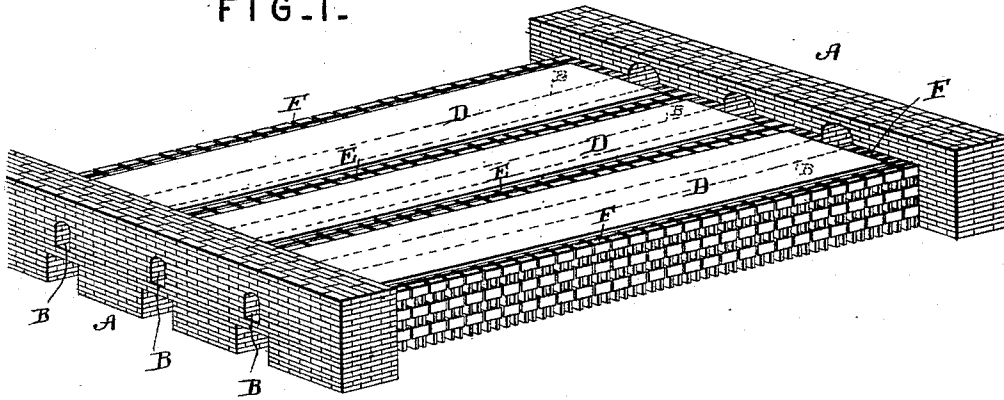
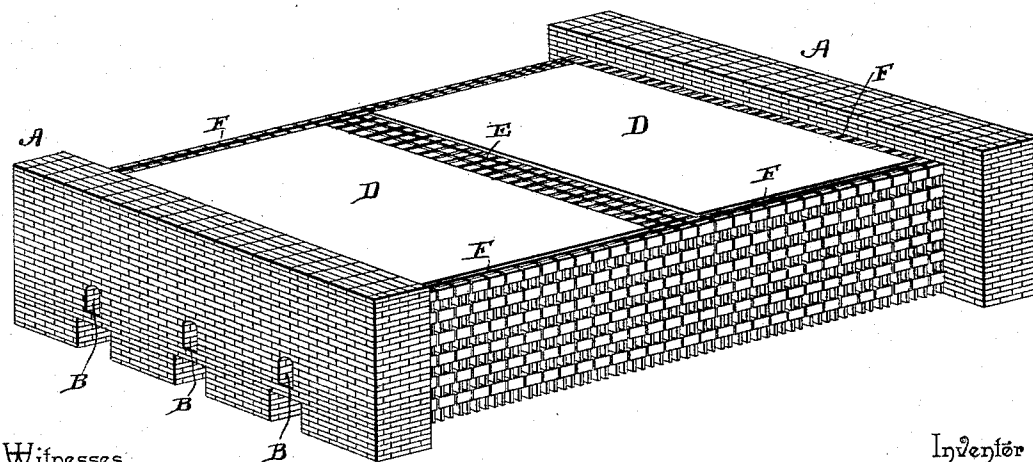


FIG. 2.



Witnesses

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METHOD OF DRYING AND BURNING BRICK.

SPECIFICATION forming part of Letters Patent No. 485,199, dated November 1, 1892.

Application filed March 21, 1892. Serial No. 425,767. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. KINZEL, a citizen of the United States, residing at Knoxville, in the county of Knox and State of Tennessee, have invented a new and useful Method of Drying and Burning Brick, of which the following is a specification.

This invention relates to methods for drying and burning brick; and it has for its object to provide an improved method or process for drying and burning brick at the same time, so as to dispense with the extra expense and labor involved in having separate driers and kilns and to combine in a single operation both the drying and burning. This is a most important advantage in brick manufacture, and, as stated, it not only dispenses with primary drying apparatus, which receives the brick from the machine, but the method contemplated by this invention provides for the thorough drying of the brick before the same commence to burn, which cannot be obtained by the use of ordinary driers unless the same are sweated or dried a second time. A great deal of unnecessary time and labor are lost by these old processes, and a further disadvantage arising from the use of supplemental driers is that a great number of brick manufacturers, having no driers, are compelled to suspend work during the winter season.

With these and many other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel method of drying and burning bricks at a single operation, which will be hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of a brick-kiln having six courses of brick placed therein to illustrate the first step of the method. Fig. 2 is a similar view showing an additional layer of six courses, illustrating the second step of the method.

Referring to the accompanying drawings, A A represent the ordinary end walls of a brick-kiln having the furnaces B extending therefrom into the body of the kiln, said walls being terraced and built upon as the bricks piled within the same for drying and burning are coursed up. The side banks or walls

of the kiln are not shown for the purposes of illustration. Such construction of the kiln or any ordinary construction will answer for carrying out the method or process contemplated by this invention. After the bricks are molded in the ordinary brick-machines the same, instead of being placed in ordinary driers, are taken directly to the kiln and are first placed in horizontal courses and edgewise to the height of six courses or less, at which height the bricks will remain in position and support each other without crushing on account of their plastic state, the bricks of course being spaced from each other to allow a free circulation of heat. This first layer of six or less courses of brick is capped by coverings of sheet-iron or other metallic plates D. These coverings of metallic plates are spread over the flues of the kiln and the entire upper surface of the coursed brick, excepting spaces between the furnace-eyes, as at E, and at the edges and adjacent to the end walls A, as at F, which spaces are left uncovered for the purpose of causing the draft to be spread to the center and also to allow the smoke, &c., to escape from the furnace. This is clearly illustrated in Fig. 1 of the drawings. A slow fire is now started in each furnace of the kiln, and the plates D will cause the heat therefrom to be thoroughly spread throughout the courses of the brick, and thus cause the same to dry quite rapidly. When the first layer of six courses are thoroughly dried, (the time being calculated as from twenty-four to thirty hours,) the sheet-iron or metallic plates D are then removed and another layer of the same number of courses as the first layer are placed upon the said first layer over the entire kiln and the flues therein. This second layer of six or less courses of green brick is not covered by the metallic plates until the bricks have become partly dry in places. If the bricks were covered with the metallic plates as soon as they were placed upon the first six courses, the same would crush each other. The heat arising from the furnace and passing through the first six courses already dry, thence through the second six courses, which are just from the machine and necessarily wet, would cause the moisture to gather on

the sheet metal, thereby softening the wet brick and causing the same to crush. Therefore when the second course of bricks have become partly dry the sheet metal is placed
5 thereover, the dry places directly over the fires being covered first, thus spreading the heat toward the center of the kiln and also toward the exposed edges of the courses, as clearly illustrated in Fig. 2 of the drawings.
10 This same method is continued until the kiln has reached a height of about six layers or thirty-six courses, and when at such height it will be found that all the bricks have become thoroughly dried and at the same time in po-
15 sition for the usual burning, the time of which is thereby greatly lessened and the bricks more thoroughly burned.

The operation and many advantages of the herein-described method are now thought to
20 be apparent without further description.

Having thus described my invention, what

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

A method of drying and burning brick, which consists in first coursing green undried 25 brick in horizontal courses in a kiln to form a layer thereof, capping the layer with metallic coverings to spread the heat, firing the kiln, then after the first layer is dried removing said metallic covering, and successively 30 coursing and capping separate layers of green undried brick upon the last-dried layer until the operation is complete, substantially as set forth.

In testimony that I claim the foregoing as 35 my own I have hereto affixed my signature in the presence of two witnesses.

JOHN C. KINZEL.

Witnesses:

H. J. KINZEL,
W. C. KINZEL.