

(No Model.)

P. LICHTENSTADT.
DRYING AND BURNING BRICKS.

No. 325,680.

Patented Sept. 8, 1885.

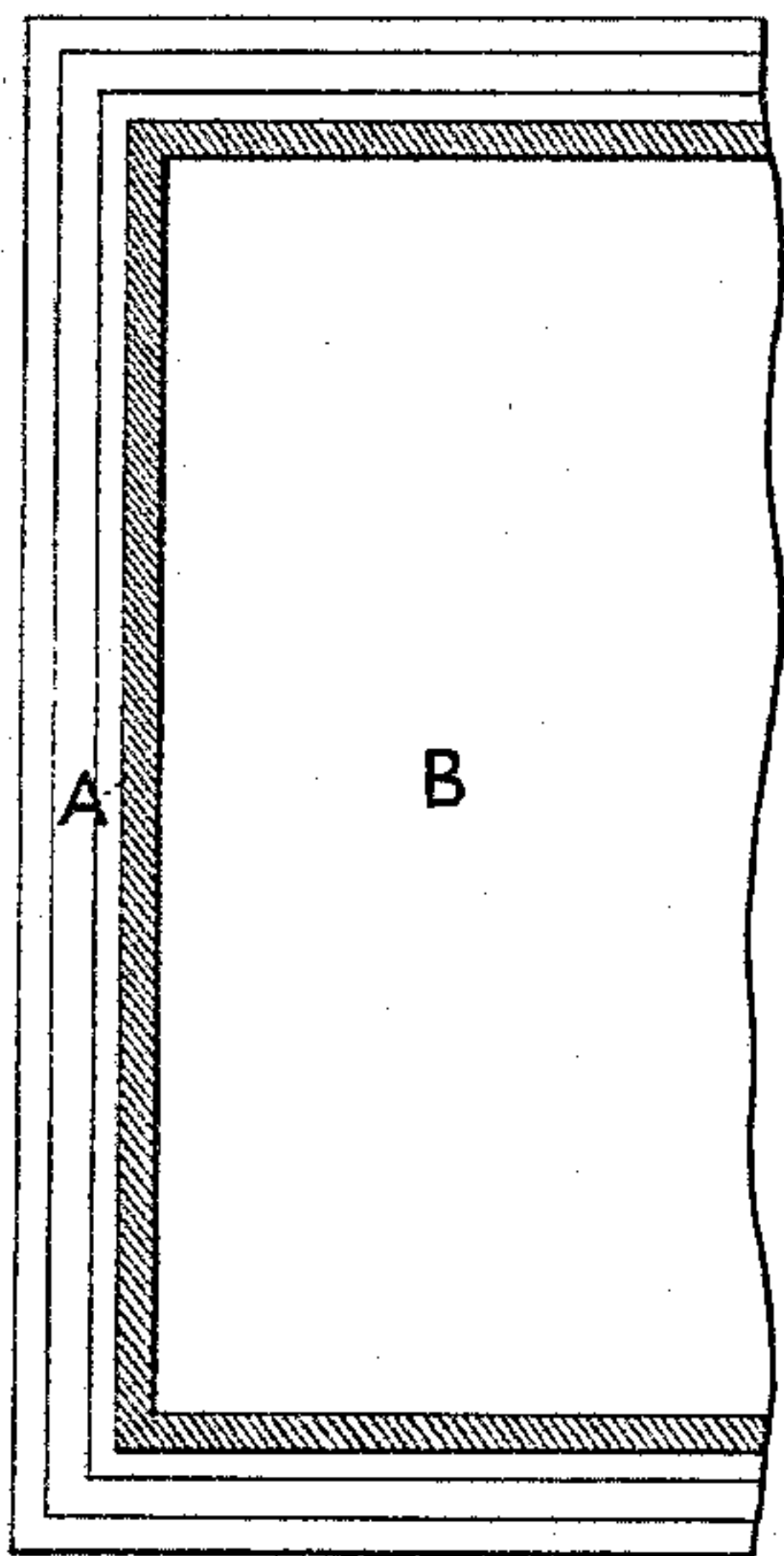


Fig. 1.

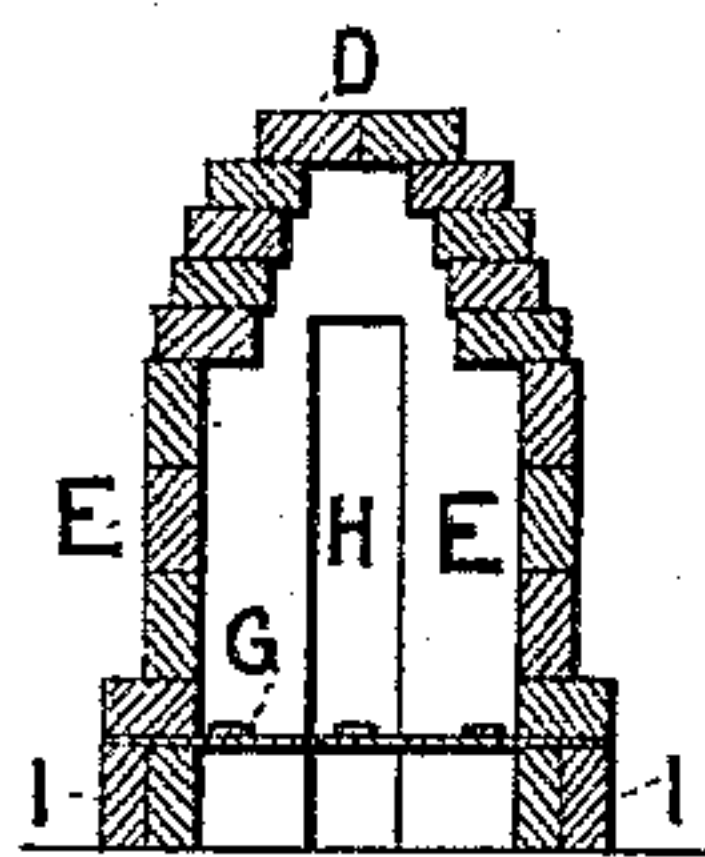


Fig. 5.

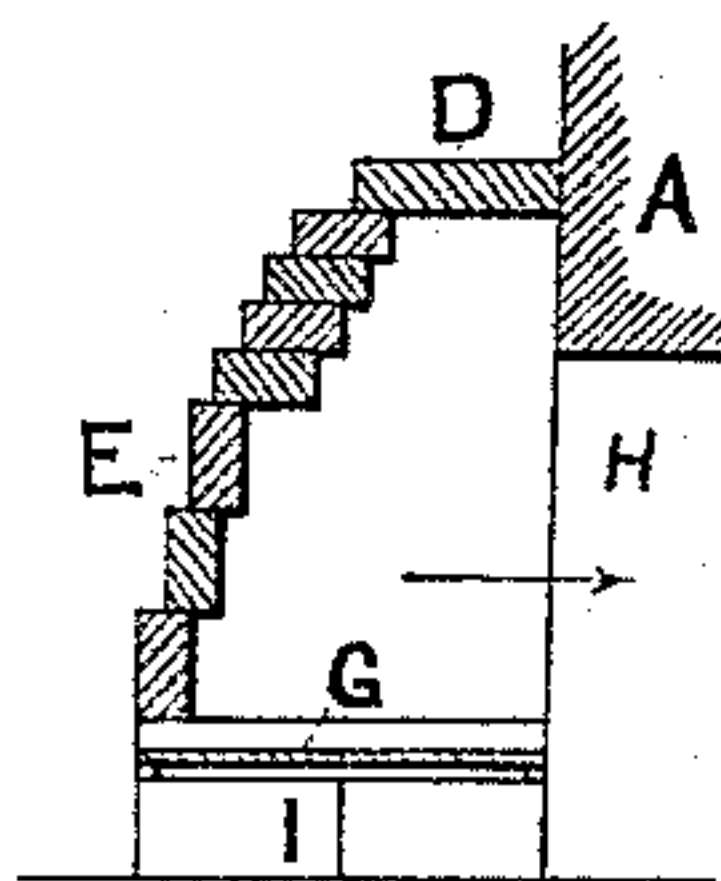


Fig. 6.

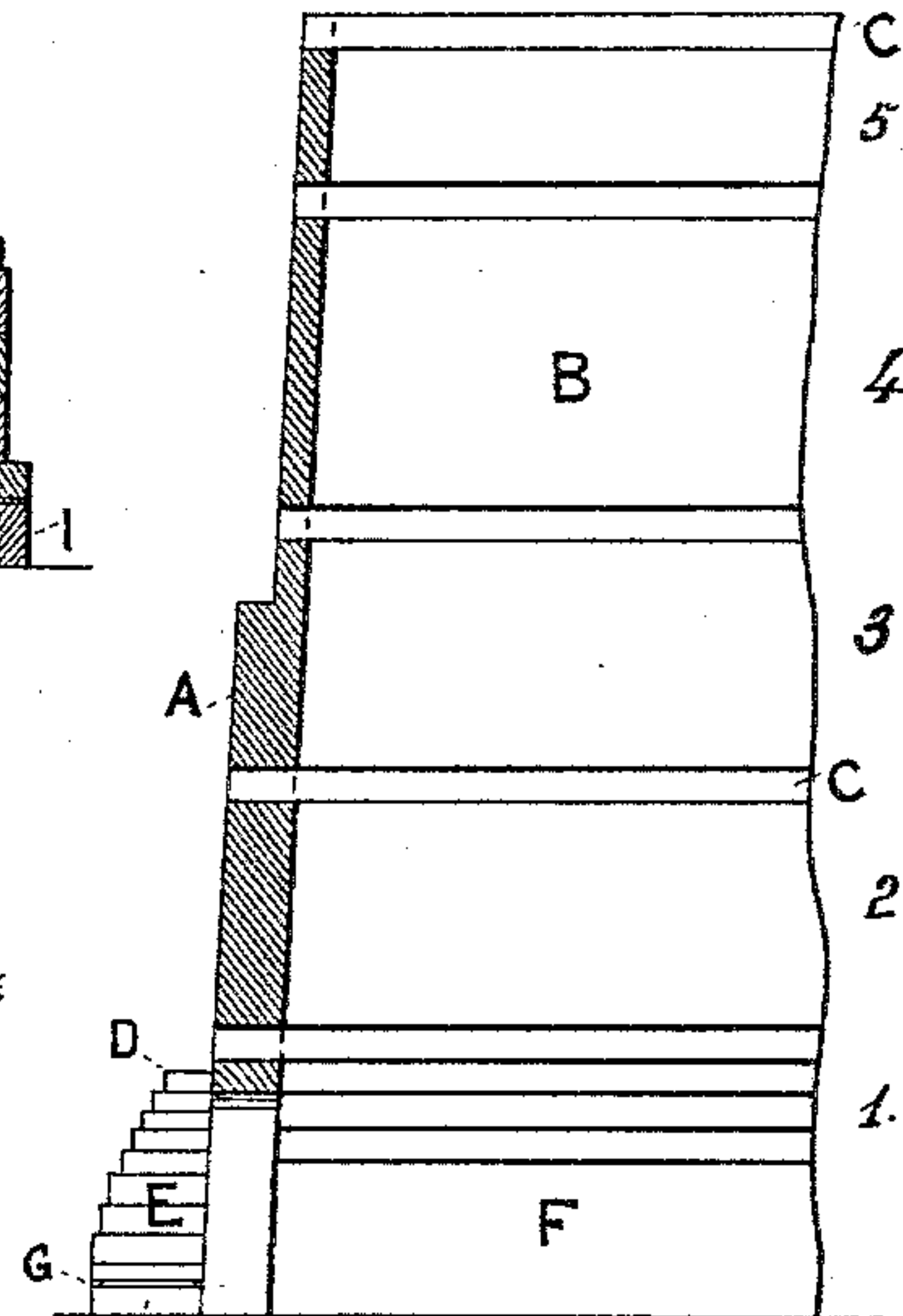


Fig. 2.

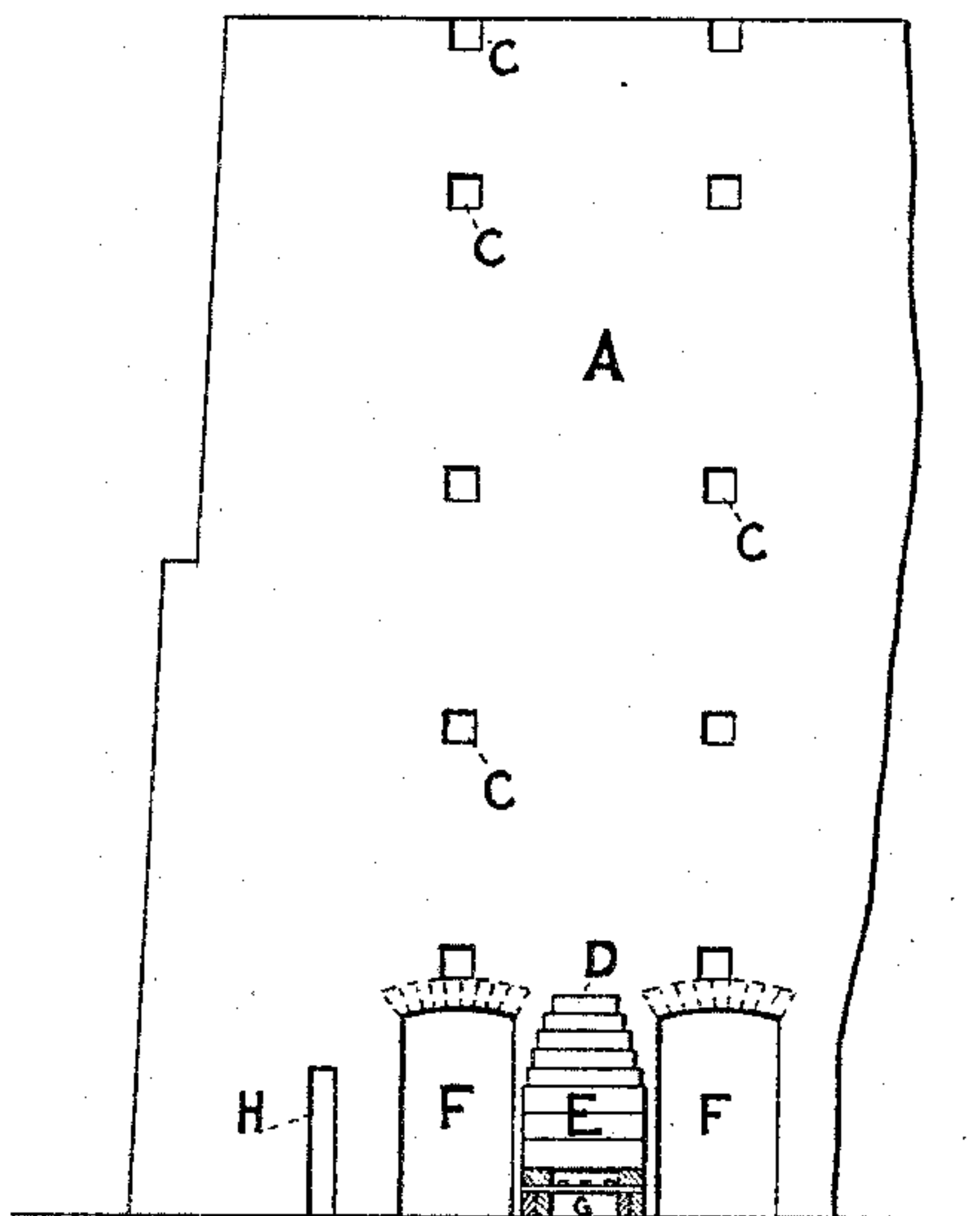


Fig. 3.

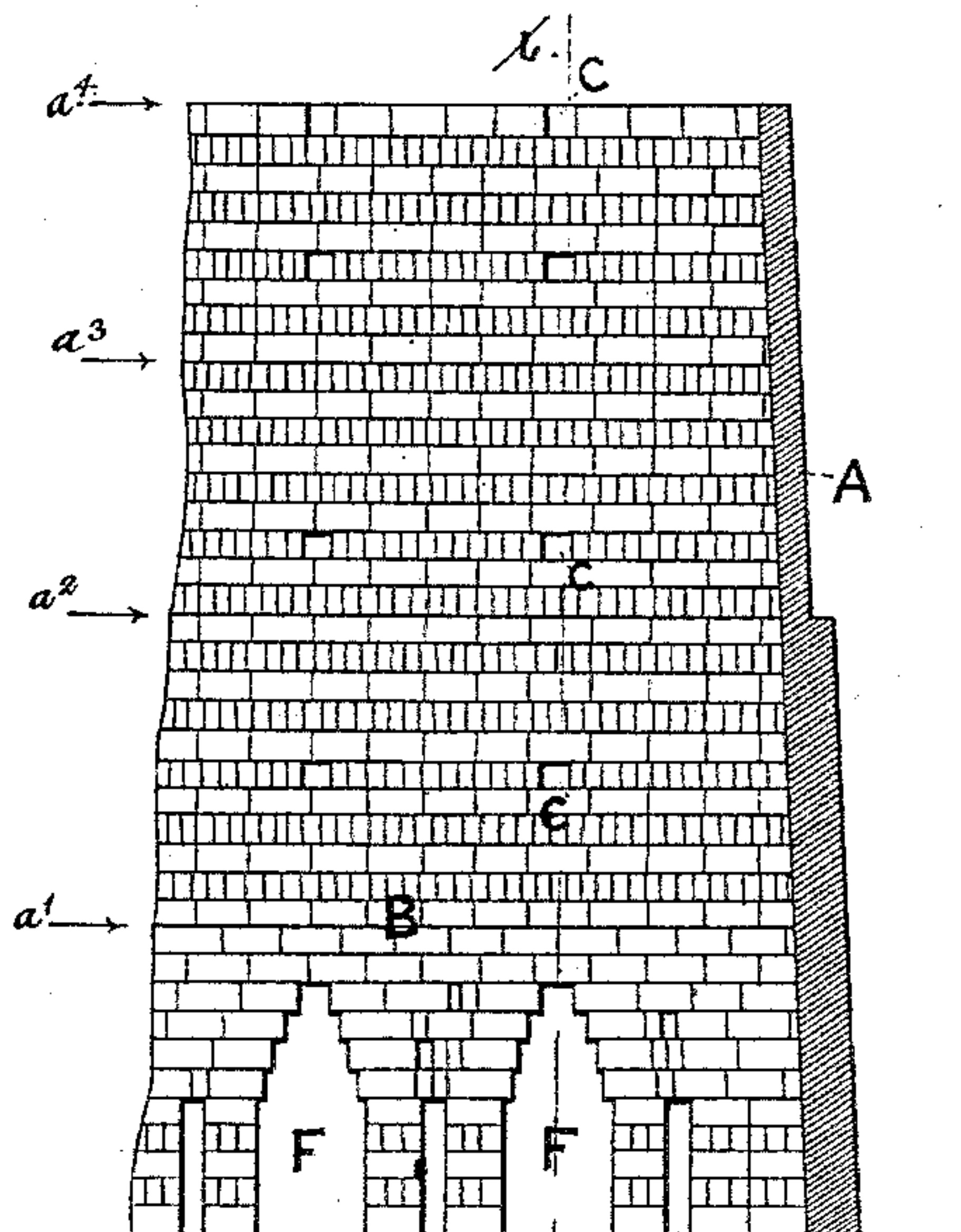


Fig. 4.

WITNESSES:

Robt. S. Goodman.
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UNITED STATES PATENT OFFICE.

PHILIP LICHTENSTADT, OF CHICAGO, ILLINOIS.

DRYING AND BURNING BRICKS.

SPECIFICATION forming part of Letters Patent No. 325,680, dated September 8, 1885.

Application filed March 10, 1885. (No model.)

To all whom it may concern:

Be it known that I, PHILIP LICHTENSTADT, residing at Chicago, in the county of Cook and State of Illinois, and a citizen of the United States, have invented a new and useful Improvement in Drying and Burning Bricks, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a top or plan view with a part broken off. Fig. 2 is a vertical cross-section on line *xx* of Fig. 4. Fig. 3 is an elevation partly broken off at one side. Fig. 4 is a vertical longitudinal section, also broken off. Fig. 5 is a cross-section, and Fig. 6 is a longitudinal section, of a retort or exterior fire-place.

Heretofore bricks made of wet, plastic, or tempered clay have been placed on boards or prepared beds for drying before being placed in the kiln for burning in the ordinary manufacture of bricks. This method requires much room, with a second handling of the bricks, and it also involves the necessity of fair weather and shelter-covers, which limits ordinary brick-making to a few months—about five in this locality.

The object of my invention is to overcome these difficulties, and to enable ordinary brick-making to be carried on regardless of the weather and for nearly the entire year; and its nature consists in the method or process of placing green or plastic bricks in the kiln as they are formed, and drying them in place and in position for burning, as hereinafter described and claimed as new.

In the drawings, A indicates the outer wall or covering of clay and refuse burned bricks, commonly called the "scoving;" B, bricks in place; C, horizontal flues or passages through the bricks; D, loose bricks, forming covers to the exterior furnaces or fire-places; E, exterior or outside furnaces or fire-places or heat-generators; F, ordinary fire-holes; G, grates; H, ground-flues with which the exterior furnaces or other source of heat are connected; I, bricks or other supports for the grates; a' , a^2 , a^3 , and a^4 , upper limits for each day's work; 1, 2, 3, 4, and 5, sections or strata added by successive day's work.

The walls A may be made in any well-known way, and the flues C are brought through them,

as shown in Fig. 5, for the purpose of forming air or vent holes to permit of the escape of the steam or moisture from the drying bricks. 55

The flue-holes and passages G H may be made in the usual manner. At one of the outer ends of each of the ground-flues H, I place a furnace composed of walls E, grate-bars G, and a removable cover, D, and through the opening covered by the bricks D fuel is fed into the furnace. 60

In filling the kiln the bricks are taken from the molds as they are formed and placed in the kiln in regular courses, with sides and ends alternating, as shown in Fig. 4, but leaving flues or passages C open as often as every seventh course, more or less, as each day's work may average. Cross-flues, if desired, may be formed between them. After the fire-holes F and flues H are properly covered fires are started in the furnaces E, and maintained with sufficient vigor to dry the bricks for each day's work before commencing the next day, but not too high to crack them, and by keeping the fires running nights the bricks become sufficiently dried to maintain each successive day's product without crushing or changing the form of those below. 70

When the kiln is filled and covered, the flues C are stopped up at their ends, and the bricks are burned in the usual manner, and as the drying progresses the lower ones may be stopped up or plugged as the successive strata or sections become sufficiently dried. 85

As the drying heat is maintained continuously during the progress of filling or constructing the kiln, the section or stratum 1 will be sufficiently dried by morning to sustain the section or stratum 2 formed by the next day's operations. By the third day section 1 will have two days' drying, and will thus be in condition to sustain the weight of the third day's operations, or stratum 3, and so on until the kiln is completed or filled, which will give for the five strata shown four days' drying for 1, three and one-half for 2, two and one-half for 3, one and one-half for 4, &c., which I have found to be sufficient, it being understood that the kilns are to be sufficiently large or sufficient in number to avoid piling the green or wet bricks beyond twelve courses of bricks for each day's stratum or section. 95 100

In the described mode of utilizing my im-

proved method or process I have carried it out with kilns having the scoving or walls A made as the work progresses; but it may be carried out with or in permanent kilns, and
5 instead of wood or coal fires, gas or oil may be used with proper apparatus, and steam may in some circumstances be used for maintaining the required drying heat.

10 Ordinarily fires in the fire-holes F will be sufficient for drying purposes, but in cold or wet weather the grates E or flues H may be used for drying as well as burning. In case the molded bricks are very wet or soft less than twelve courses should be placed for each day.

The proper number of courses can be readily determined for each brick-yard.

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

The herein-described method or process of stacking bricks made from wet or plastic clay 20 in the kiln directly from the mold or former without resetting, and drying them within the kiln in position for burning, substantially as specified.

PHILIP LICHTENSTADT.

Witnesses:

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MARIE L. PRICE.