

(No Model.)

A. YATES.
METHOD OF BURNING BRICK.

No. 264,117.

Patented Sept. 12, 1882.

Fig. 1.

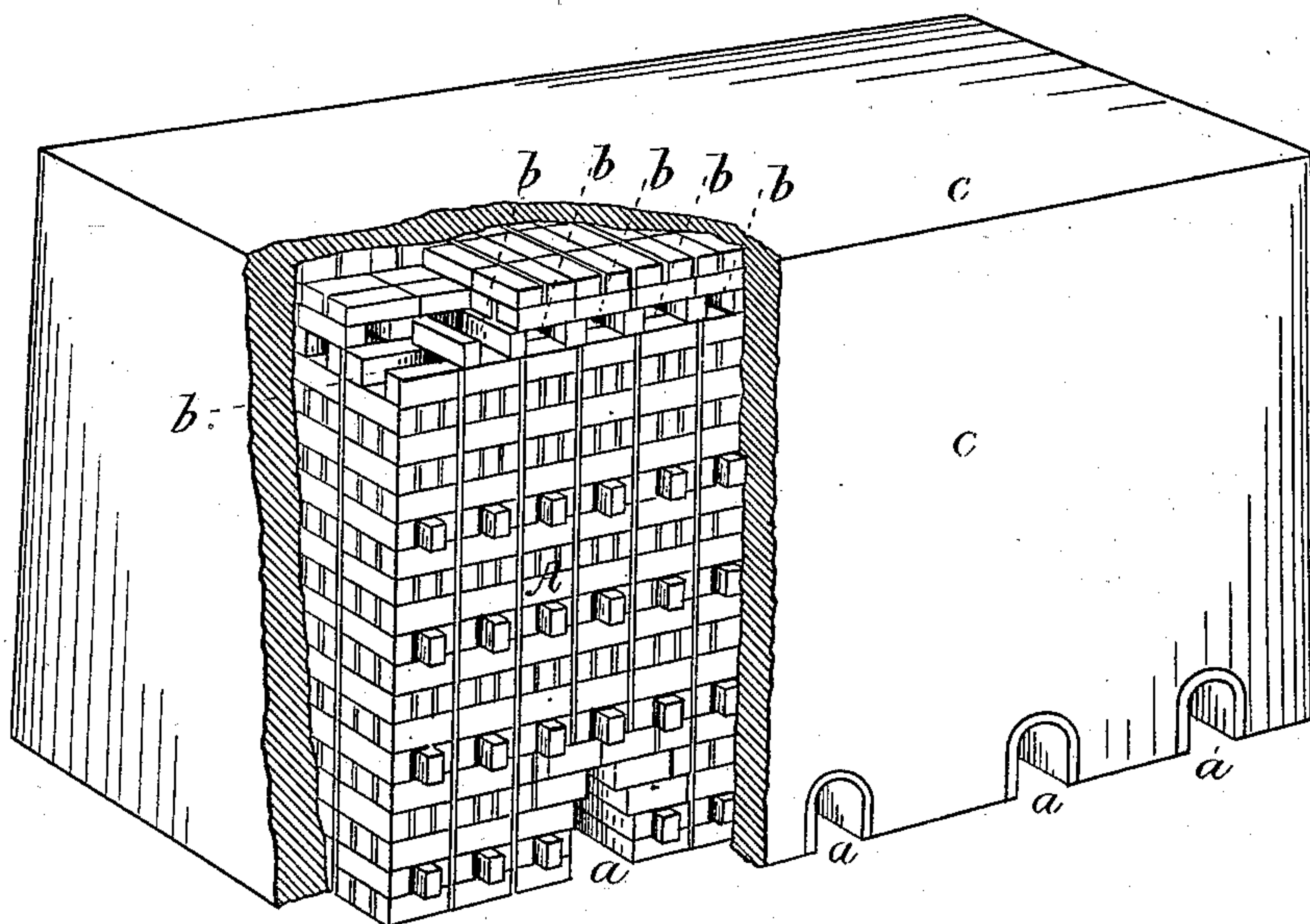
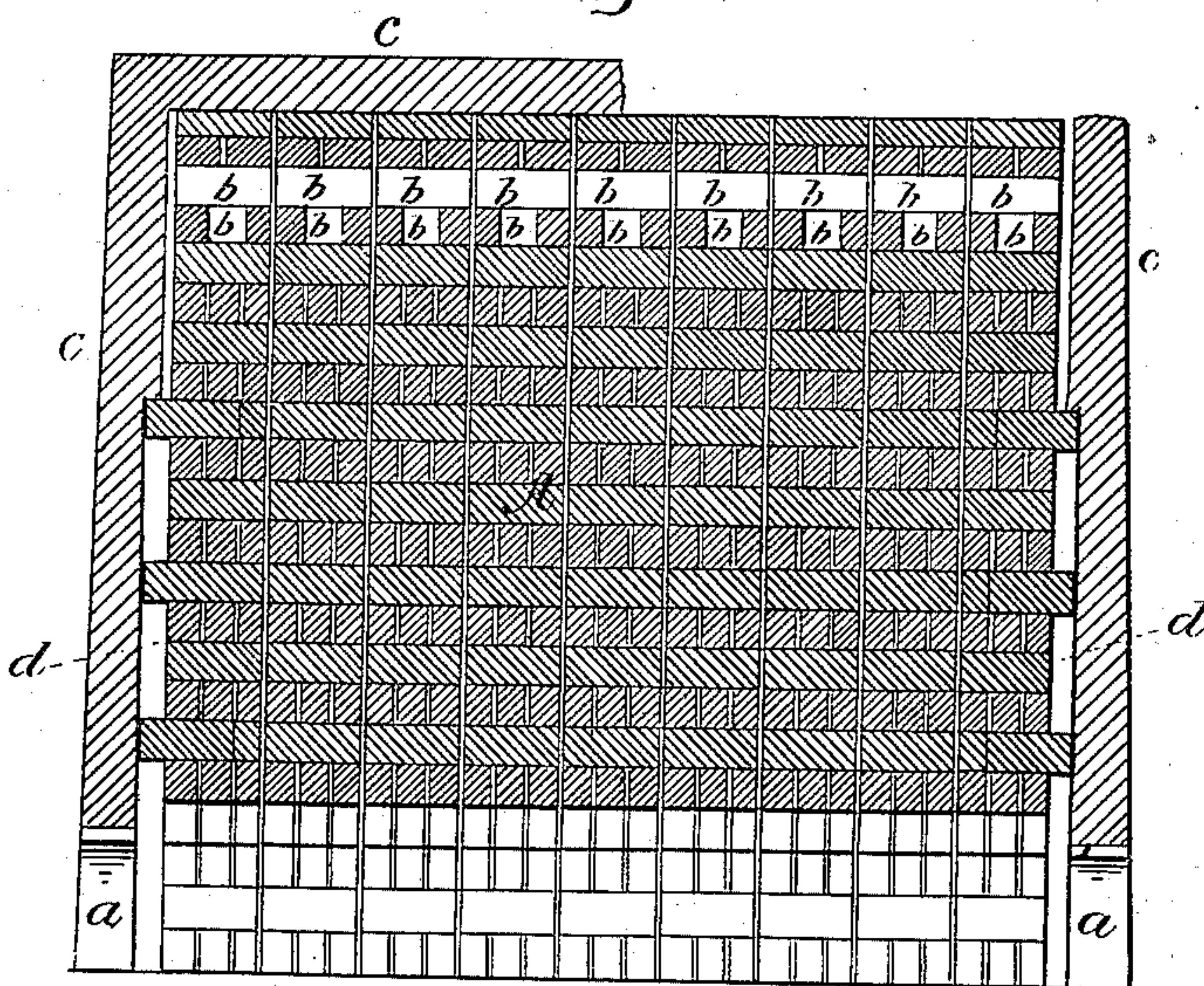


Fig. 2.



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METHOD OF BURNING BRICK.

SPECIFICATION forming part of Letters Patent No. 264,117, dated September 12, 1882.

Application filed April 3, 1882. (No model.)

To all whom it may concern:

Be it known that I, ALFRED YATES, residing in the city of Cambridge, in the county of Middlesex and State of Massachusetts, a subject of Victoria, Queen of the United Kingdom of Great Britain and Ireland, have invented a new and useful Improvement in Methods of Burning Bricks, of which the following is a full, clear, and exact description, reference being made to the accompanying drawings, forming a part of this specification in explaining its nature, in which—

Figure 1 is a perspective of a brick-kiln having a corner broken out to illustrate its application, and Fig. 2 is a cross vertical section on the line of one of the arches.

This invention relates to the method of burning bricks whereby the heat employed in burning is disseminated more uniformly throughout the kiln, and is prevented from escaping to the outer air to as large an extent as formerly.

The method is applicable to the brick-kiln of ordinary construction, and I have represented in the drawings one of that class.

The method consists in forming or arranging at or near the top of the kiln one or more lines of flues which extend across the kiln from side to side or from end to end, or both, (in which last-named case it would be preferable that one line of flues be above the other, and that they be separated by one or more courses of brick,) and by commencing the burning of the kiln and continuing it until the water-smoke is driven off and the bricks well heated, and then applying to the top of the kiln and to the sides, if not previously applied, a coating or layer of soft clay or a mixture of clay and other earth, forming a casing or envelope about the kiln, which prevents the heat from escaping therefrom to any considerable extent. The flues are formed in piling the brick in making the kiln in any way well known to brick-makers, and, if desired, instead of using green brick burnt brick may be employed. A flattening of one or more courses of brick, preferably, is laid over the flues, and at a proper stage in the burning of the kiln this flattening or the flues are covered or embedded with soft clay or a mixture of clay and other earth of a depth sufficient to prevent the escape of heat to any extent through the top of the kiln. At the

same time, or before, or immediately after I apply to the sides and ends of the kiln a scoving of brick and mud or clay, or mixture of clay and other earth, which also serves to prevent the heat from leaving the kiln. This scoving, preferably, is applied before the commencement of the firing; and is arranged preferably to form a passage or flue *d* on the sides and ends of the kiln, which passage, however, preferably does not extend to the top of the kiln. This passage or flue provides means whereby the heat from the fire can pass directly from the arches upon the outside of the green brick at the ends and sides of the kiln, and then passes into the body of the kiln. This topping or upper covering or protection of the kiln cannot be applied to advantage at the commencement of the burning, because it is necessary, first of all, to heat up the mass of bricks in the kiln, and for that reason a more vigorous draft and a ready escape for the smoke and steam are necessary; but after the mass of bricks is well heated and cleared of steam or water-smoke, and the top covering and the scoving (if not previously done) is applied, and the heat is thereby uniformly spread throughout the kiln, and what current is necessary for the purpose of circulation of the heat is established by the transverse flues, which, being uniformly arranged, and being close together, prevent any tendency of the heat to follow any given line or direction.

In the drawings, A represents the kiln; *a*, the arches; *b*, the flues, and *c* the covering or layer of clay upon the top, and *d* the scoving.

This improvement not only results in burning the bricks more uniformly throughout the kiln than heretofore, but it also improves very much the quality of those bricks at the top, corners, sides, and ends of the kiln to such an extent that hard brick are burned almost at the very corners and sides of the kiln remote from the fire.

Another advantage which arises from this process consists in the saving of fuel that is effected. This is caused by checking the draft through the kiln and preventing the escape of heat therefrom and confining it within the kiln, and thereby getting from the fuel used the greatest amount of value.

I am aware that it is not new to arrange flues

provided with dampers across the top of brick-kilns, and do not broadly claim such arrangement.

Having thus fully described my invention,
5 I claim and desire to secure by Letters Patent of the United States—

The process of burning bricks in kilns consisting in providing the kiln with one or more lines of transverse flues at or near its top, heating the kiln to the stage or point known as

“cleared,” and then applying a coating or covering of clay or clay and earth or other similar non-heat-conducting material to the top of the kiln, and to the sides, if not previously applied, and continuing the burning, all substantially as and for the purposes described. 15

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Witnesses:

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