W. H. BLAUVELT.

COKE OVEN CONSTRUCTION.

APPLICATION FILED FEB. 20, 1909.

947,524. Patented Jan. 25, 1910.

Fig. 1.

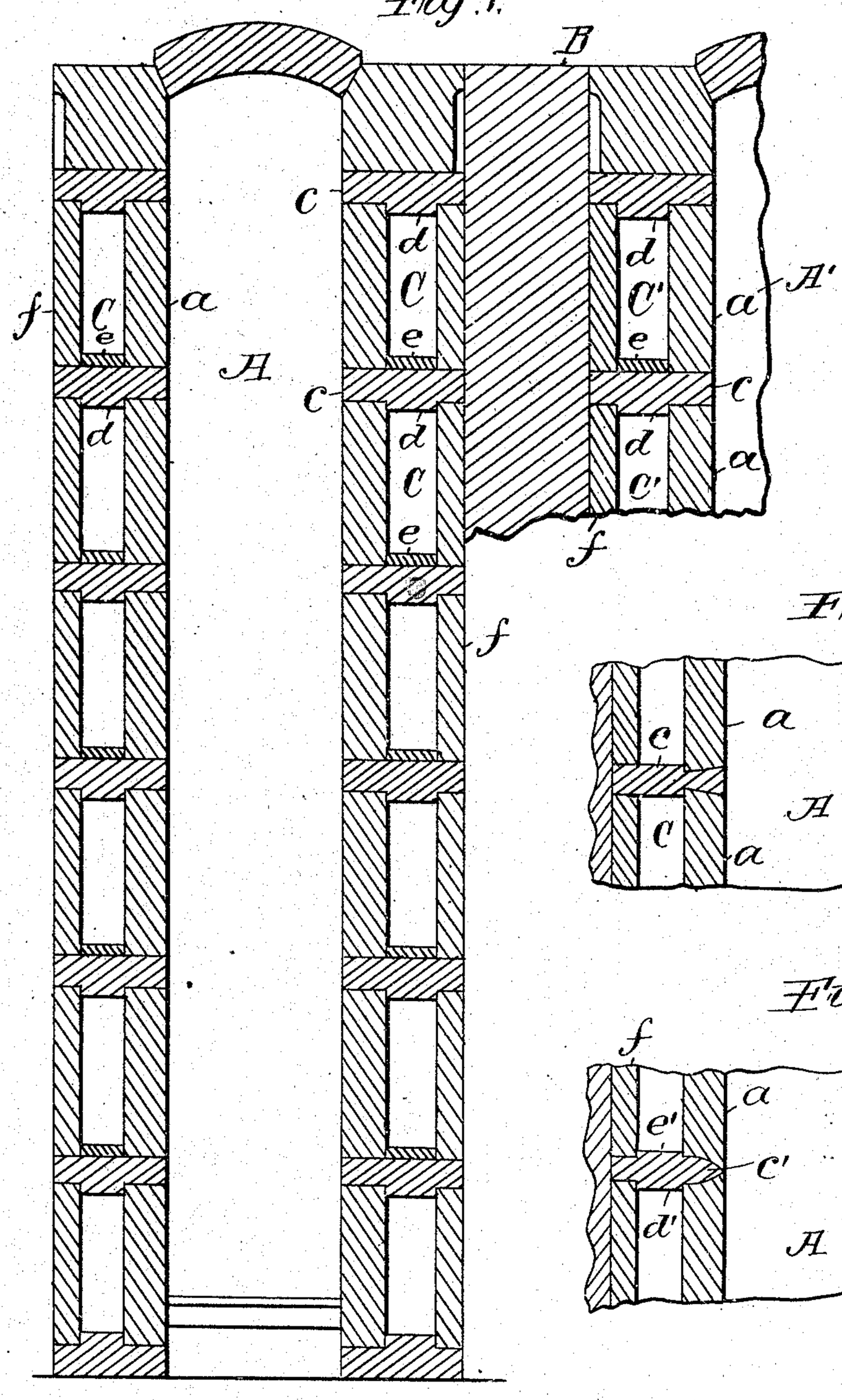

Fig. 2.

Fig. 3.

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UNITED STATES PATENT OFFICE.

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COKE-OVEN CONSTRUCTION.

947,524. Specification of Letters Patent. Patented Jan. 25, 1910.

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To all whom it may concern:

Be it known that I, WILLIAM H. BLAUVELT, a citizen of the United States, residing in the city of Syracuse, county of Onondaga, and State of New York, have invented certain new and useful Improvements in Coke-Oven Construction, of which the following is a specification.

My invention relates particularly to the walls which separate a coke-oven from the adjoining heating flues. Heretofore such walls have been generally constructed of brick or tile of relatively small size, and laid somewhat loosely one upon another. With such a construction under certain conditions, as in coking coals, which swell in distillation, the bricks or tiles forming the oven wall may be pushed outward into the heating flues. Oven walls have also been formed by making the heating flues of hollow tiles, one side of which form the oven wall. While such a construction affords a strong wall, the tiles are expensive to make, and a break in the oven wall involves the necessity of removing one or more entire tiles, and the substitution of new ones.

The object of my improvements is to obviate these difficulties and provide an economical form of construction which will enable the oven wall to resist pressure from within, and which will present a minimum of crevices through which gas can be transmitted to or from the oven.

The invention will be best understood by reference to the accompanying drawings, which show an embodiment thereof.

Figure 1 of the drawings is a vertical cross section showing an oven and a portion of an adjoining oven, with the side walls and heating flues thereof, and a portion of an intermediate partition wall. Figs. 2 and 3 show modified forms of the tiles which separate the heating flues.

A, A′, indicate two adjoining retort ovens, separated by the partition wall, B, built of brick or other suitable material.

C, C, are the heating flues on one side of each oven adjacent the reinforcing partition wall, B. It will be understood that on the other side of each of said ovens there will be a similar series of heating flues, not shown in the drawings, and other similar reinforcing partition walls separating the ovens shown from those adjacent thereto, and so on throughout the battery of ovens.

The heating flues, C, C, are separated by horizontally extending tiles or bricks, *c*, *c*, each of which is provided with a downwardly extending portion, *d*, which forms the top of the flue below it, and provides bearing shoulders for spacing the tiles of the inner and outer courses which form the hollow oven walls. The floors of the heating flues may be formed of tiles or bricks, *e*, *e*, laid upon the tiles, *c*, or these may be made integral with the tiles, *c*, so as to form upwardly extending offsets thereof and providing shoulders, similar to the downwardly extending offsets, *d*. The outer ends of the tiles, *c*, bear against the wall, B, and are separated and supported by tiles, *f*, *f*, forming the outer walls or linings of the heating flues. The walls of the ovens, A, A′, are formed of tiles, *a*, *a*, which span vertically the distance between each pair of the tiles, *c*, *c*, and separate and support the inner ends of these. The lower ends of the wall tiles, *a*, *a*, bear against the shoulders formed by the tiles or upward offsets, *e*, and the upper ends of the tiles, *a*, bear against the shoulders formed by the downward offsets, *d*, of the tiles, *c*. Evidently the forms of the tiles, *c*, may be modified in various ways, as indicated in Figs. 2 and 3, without departing from the principle of my invention.

With this construction it will be evident that any pressure from within the retort against the wall tiles, *a*, will be transmitted through the tiles, *c*, *c*, to the rigid wall, B, and any outward dislodgment of the tiles, *a*, will be impossible. Such a construction is also very economical, and in case of the breaking or cracking of any one of the tiles forming the retort wall, such tile can be removed and replaced without disturbing the other parts of the structure.

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

1. In a coke oven structure, the combination with two adjacent hollow walls, forming the walls of a single oven, said hollow walls each comprising inner and outer courses of tiles and transversely disposed partition tiles forming the partitions between the flues, said partition tiles having end portions extending between adjacent tiles of both the inner and the outer courses, and having offset spacing portions extending between the tiles of said inner and outer courses, and a solid reinforcing wall

on the outer side of each hollow wall, whereby lateral pressure within the oven against the inner courses of the hollow walls is transmitted to the solid walls on each side of the oven.

2. In a coke oven structure, the combination with two adjacent hollow walls forming the walls of a single oven, said hollow walls comprising vertically disposed inner and outer courses of tiles, horizontally disposed partition tiles forming partitions between the flues, said partitions having end portions extending between adjacent vertical tiles of both the inner and outer courses, and having in their lower faces offset spacing portions extending between the vertical tiles of the inner and outer courses and separate spacing tiles inserted between the vertical tiles of the inner and outer courses and lying upon the partition tiles, and a solid reinforcing wall on the outer side of each of said hollow walls, whereby the lateral pressure within the oven against the inner courses of the hollow walls is transmitted to the solid walls on each side of the oven.

In testimony whereof, I have hereunto subscribed my name, this 17th day of February, A. D., 1909.

WILLIAM H. BLAUVELT.

Witnesses:
JOHN R. WICKES,
WILLIAM A. SNYDER.