

No. 614,449.

Patented Nov. 22, 1898.

C. F. EIKER.
BUILDING CONSTRUCTION.

(Application filed Nov. 12, 1897.)

(No Model.)

FIG. 1

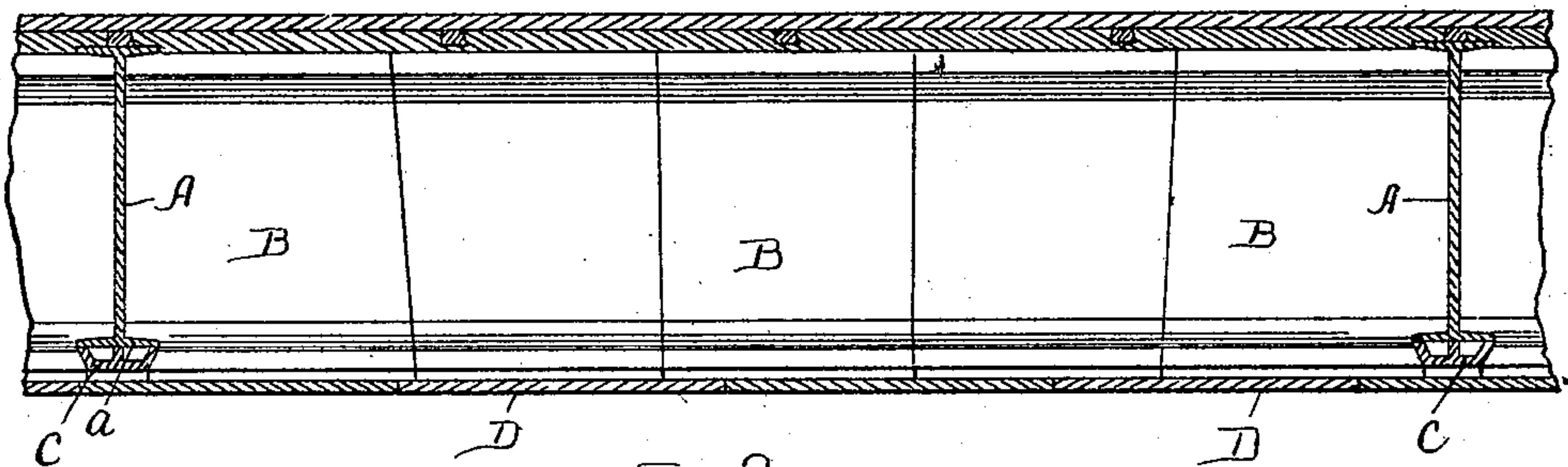


FIG. 2.

FIG. 4.

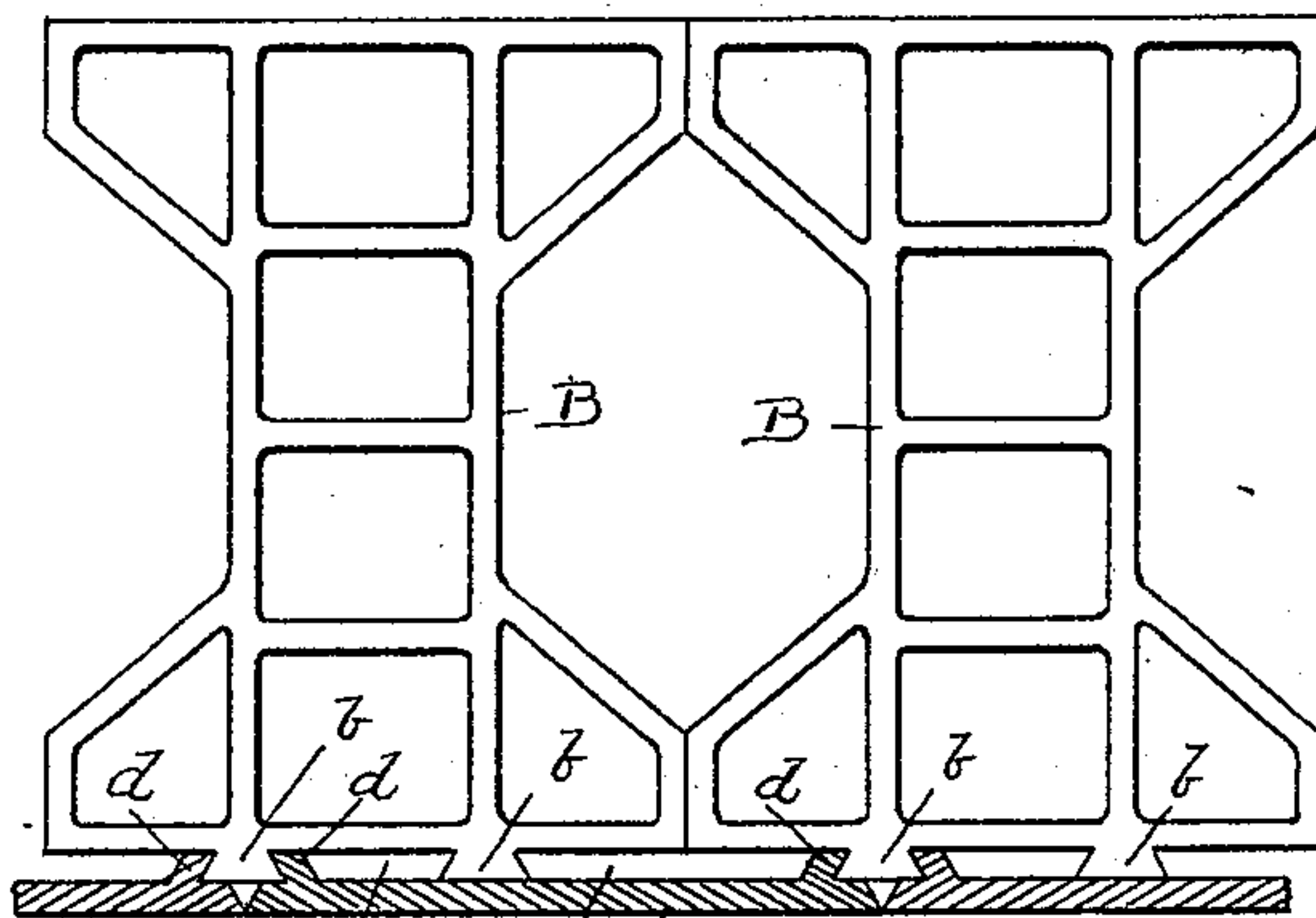
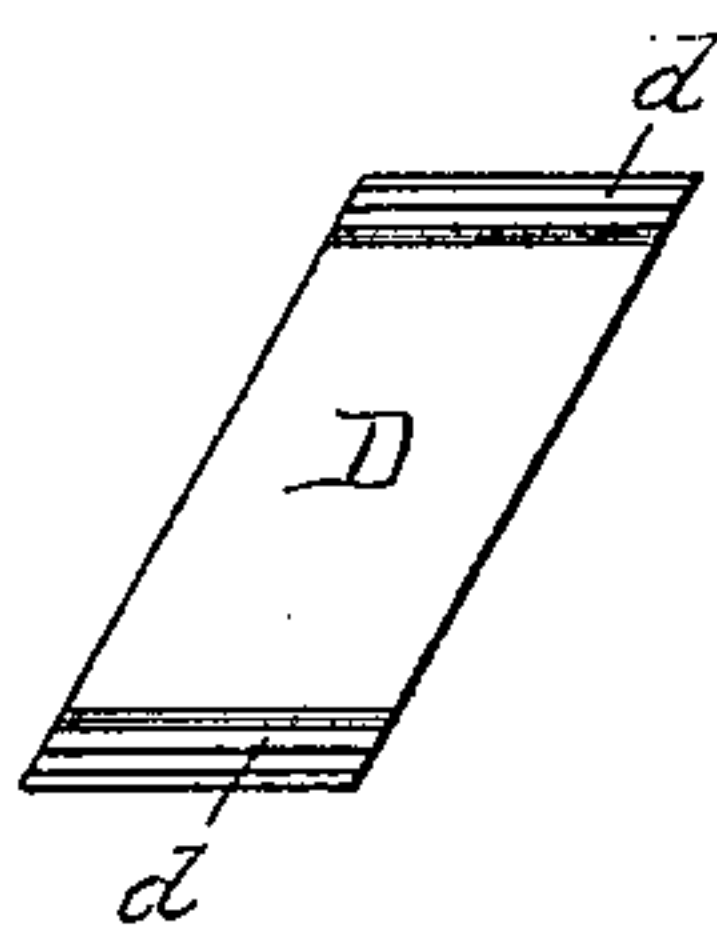
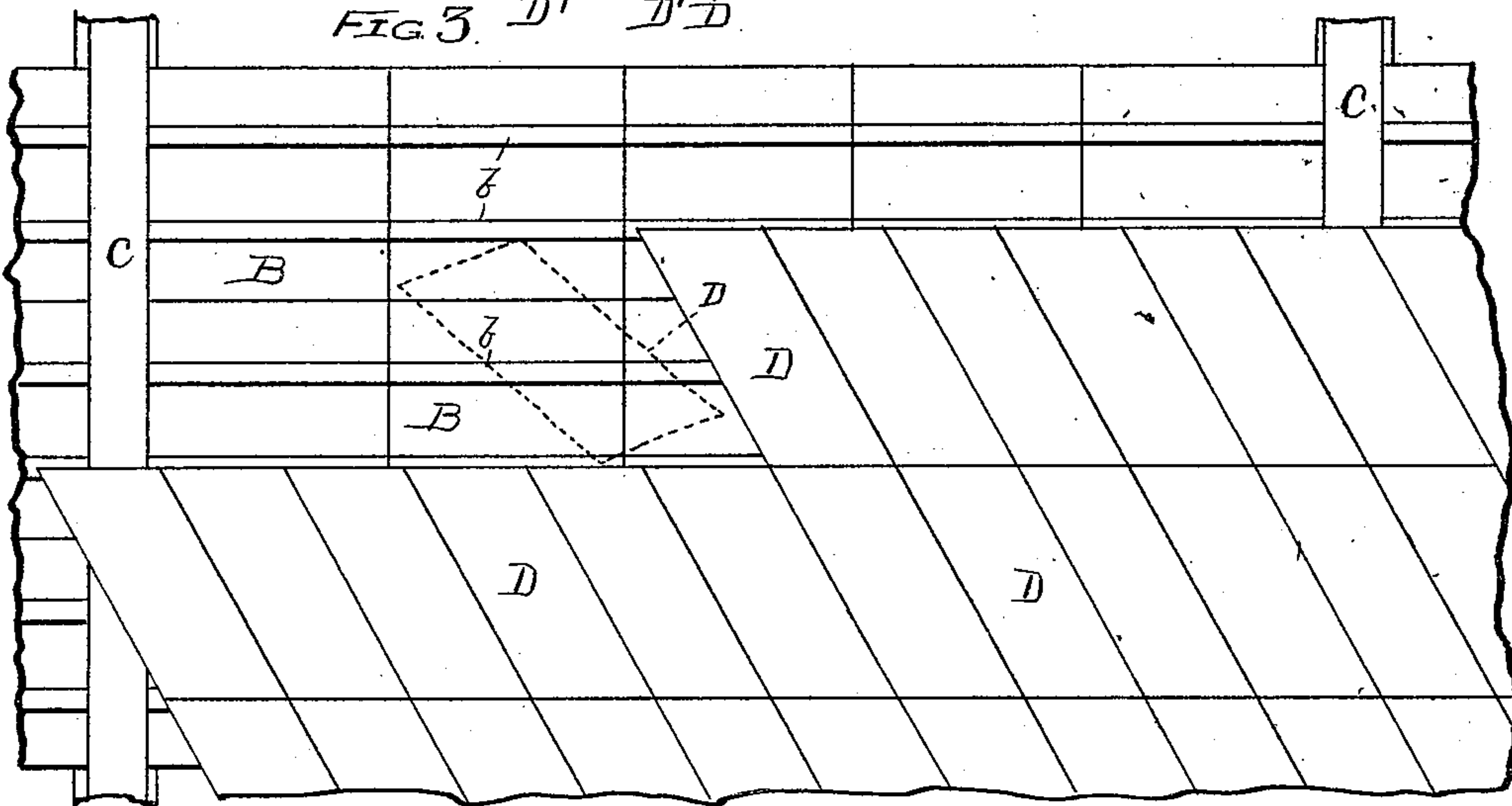


FIG. 3. D' D



WITNESSES:

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BUILDING CONSTRUCTION.

SPECIFICATION forming part of Letters Patent No. 614,449, dated November 22, 1898.

Application filed November 12, 1897. Serial No. 658,280. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. EIKER, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Building Construction, of which the following is a specification.

My invention relates to improvements in building constructions, and more particularly to improvements in the construction of fire-proof buildings composed of steel or metal framework and tile filling between the metal beams and surrounding the same to protect them against heat. Heretofore in such building construction the tile filling or flat arch-work between the metal beams and constituting the floor or ceiling horizontally between the rooms has been liable to complete destruction in case of fire when water is thrown upon the heated tilework, the sudden and unequal expansion and contraction of the heated tile when water is thrown upon it causing it to crack and break and frequently give way entirely, as has been demonstrated by tests and experiments heretofore made.

The object of my invention is to overcome this defect or difficulty and save the great cost heretofore incurred in repairing such buildings in case of fire.

To this end my invention consists in providing the tilework or filling between the metal beams or surrounding the same with integral projecting keys adapted to support a supplemental thin tile-covering and providing the tilework with such thin supplemental tile-covering, with an air-space between, so that the supplemental covering may protect the main tilework from contact with water and from consequent danger of disintegration.

In the accompanying drawings, forming a part of this specification and in which similar letters of reference indicate like parts in all the views, Figure 1 is a vertical longitudinal section of a portion of a flat arch or tile work filling between two horizontal beams embodying my invention. Fig. 2 is an enlarged transverse section at right angles to Fig. 1. Fig. 3 is a bottom view showing the thin supplemental tile-covering partially in place and partially removed. Fig. 4 is a detail plan view of one of the pieces of the supplemental tile-covering.

In the drawings, A A represent metal beams or framework of a building.

B B are abutment hollow tiles extending between the beams A A and constituting a flat tilework arch, constituting the floor and ceiling, for example, of a building, the abutting or meeting faces of the tile B being inclined to form a flat arch.

The particular form and construction of the hollow tile B which I prefer to employ in practicing my invention is that shown and described and patented in Letters Patent No. 456,309, of July 21, 1891, although my invention may be applied to any other suitable construction of tile, whether the same be used as a flat arch or filling between beams or as a protective covering surrounding the same or framework.

The tile B are provided with a series of integral keys *b*, preferably of a dovetailed shape and projecting from their lower outer or exposed surface, as is clearly indicated in the drawings at Figs. 2 and 3. The integral keys or dovetailed ribs *b* extend parallel to each other, as shown in Fig. 3, and form supports for the supplemental thin tile-covering D. Each of the supplemental tile D is preferably of an oblique parallelogram shape, so that they may be conveniently inserted between the ribs or keys *b b* by simply turning the same, as indicated by the dotted lines in Fig. 3, and also to enable the supplemental tile to properly bridge the lower flange *a* of the beams A, across which the keys or ribs *b* of course do not extend, as these flanges are covered by small covering-tile C, which are not provided with the ribs or keys *b*. Owing to the oblique or diagonal shape of the tile D they properly span the covering-tile C. The ribs or keys *b* are preferably formed in the tile B closer together than the length of the tile D, as illustrated in the drawings, as this affords an intermediate support for the tile and also enables short pieces to be used, as is sometimes necessary. The tile D are furnished with inclined ribs or lips *d* to engage the ribs or keys *b*, and thus leave an open or air space D' between the tile B and the supplemental tile D. Supplemental tile D are thus caused to better protect the tile B against heat and also against the chilling effect of water thrown upon the tile D when heated. By this means

in case of fire the supplemental covering-tile D will protect the tile B from injury by contact with water, and in case the supplemental tile D are destroyed by the heat and water the
5 main tile B will remain intact and the work can be repaired easily and cheaply by simply renewing the supplemental tile D.

I claim—

10 1. The improvement in fireproof-building construction consisting of a tilework filling or covering provided with integral supporting-keys or dovetailed ribs, in combination with a thin supplemental tile-covering supported by said keys or ribs, substantially as specified.

15 2. The combination with the tilework B provided with ribs *b*, of oblique thin supple-

mental tile D, covering the tile B and adapted to be inserted between the ribs *b* by a turning movement, substantially as specified.

3. The combination with main tile B pro- 20 vided with dovetailed ribs or keys *b*, of supplemental tile D provided with ribs or lips *d* engaging said ribs or keys *b*, substantially as specified.

4. The combination with main tile B of a 25 thin supplemental covering-tile D, having an air-space between the same and said tile B, substantially as specified.

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Witnesses:

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