(No Model.) 2 Sheets—Sheet 1.

J. T. HANSON.

METHOD OF CONSTRUCTING FIREPROOF FLOORS, FLATS, WALLS, &c.

No. 595,169. Patented Dec. 7, 1897.

Fig. 1.

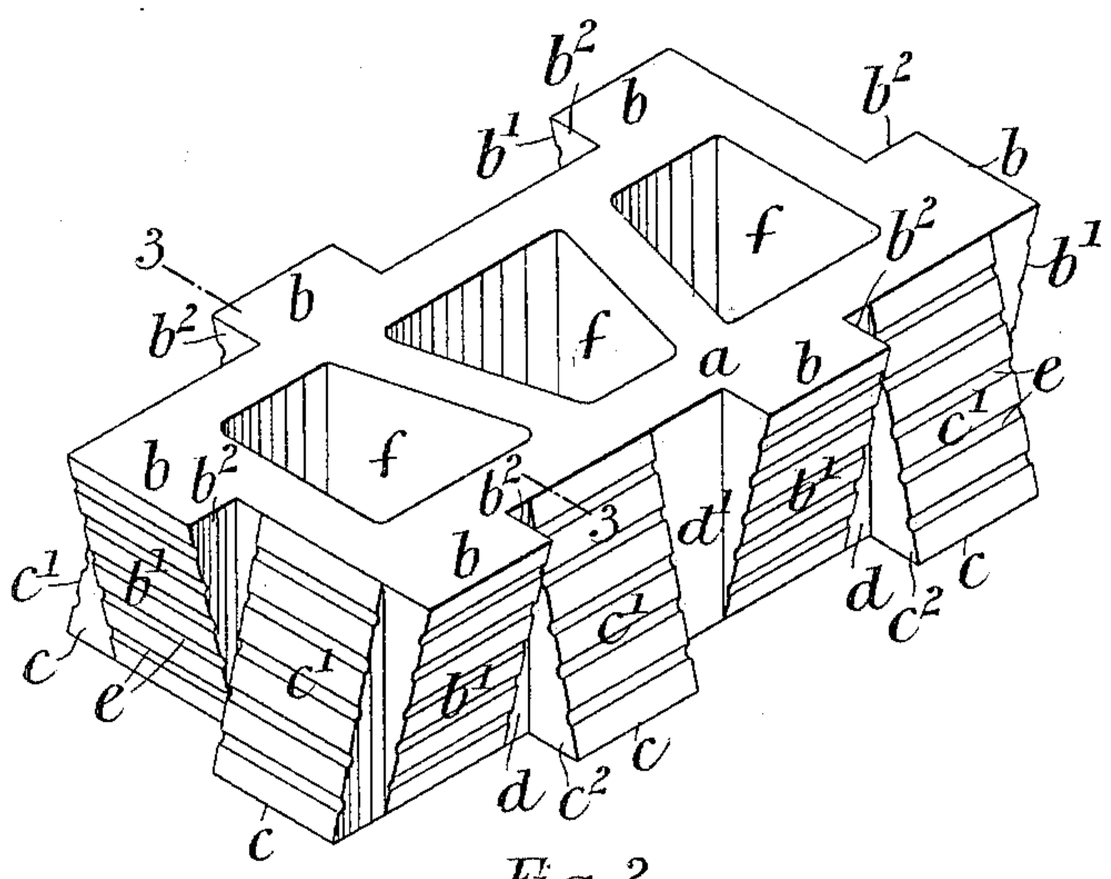


Fig. 2.

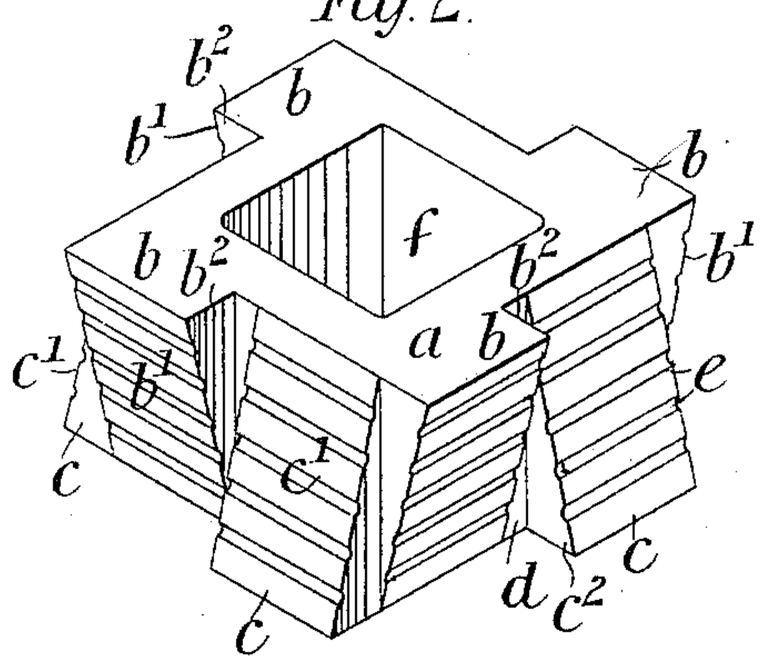
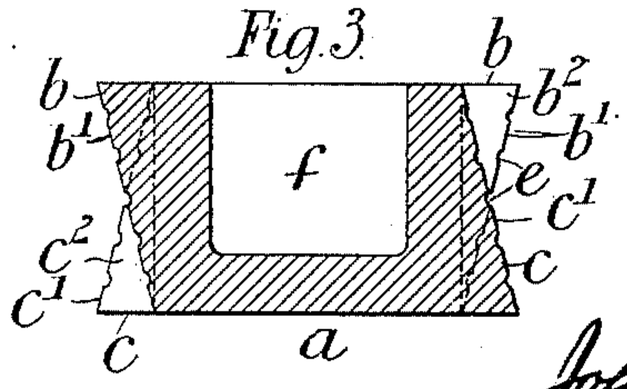


Fig. 3.



Witnesses.
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G. H. Graves.

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his Attys

(No Model.) 2 Sheets—Sheet 2.

J. T. HANSON.

METHOD OF CONSTRUCTING FIREPROOF FLOORS, FLATS, WALLS, &c.

No. 595,169. Patented Dec. 7, 1897.

Fig. 4.

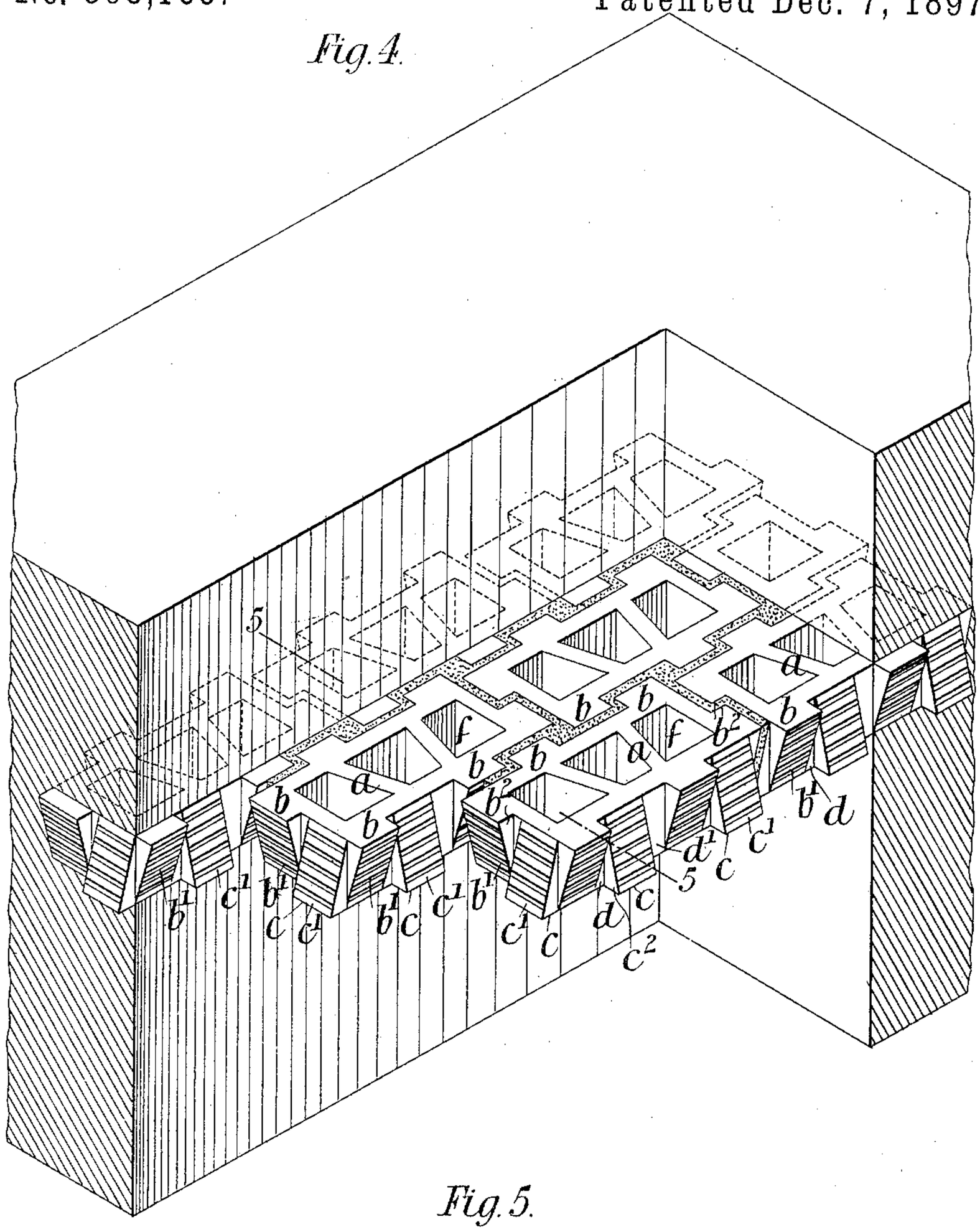
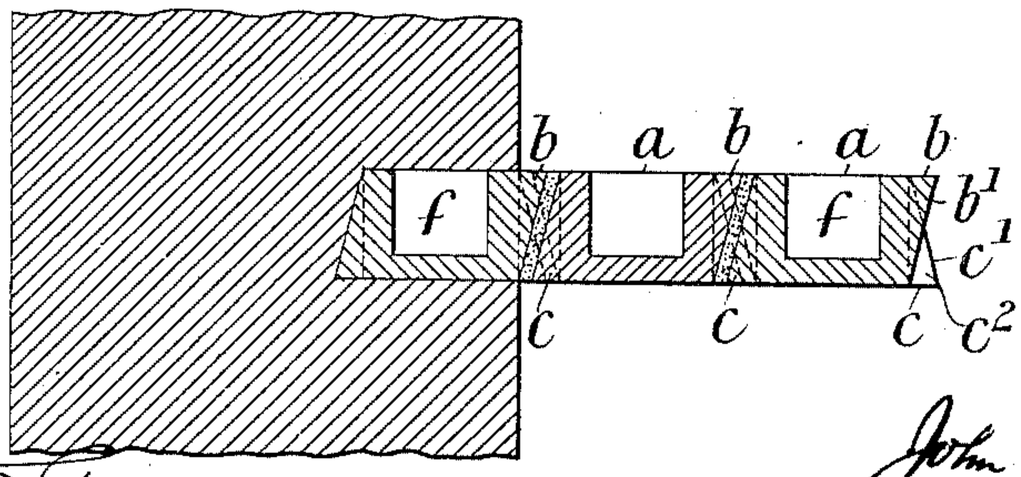


Fig. 5.



Witnesses.
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UNITED STATES PATENT OFFICE.

JOHN TREADWAY HANSON, OF LONDON, ENGLAND, ASSIGNOR TO THE HANSON'S FIRE-PROOF FLOOR SYNDICATE, LIMITED, OF SAME PLACE.

METHOD OF CONSTRUCTING FIREPROOF FLOORS, FLATS, WALLS, &c.

SPECIFICATION forming part of Letters Patent No. 595,169, dated December 7, 1897.

Application filed March 6, 1897. Serial No. 626,294. (No model.)

To all whom it may concern:

Be it known that I, JOHN TREADWAY HANSON, a subject of the Queen of Great Britain, residing at London, England, have invented a new and useful Method of Constructing Fireproof Floors, Flats, Partitions, and Walls, of which the following is a specification.

My invention relates to fireproof floors, walls, ceilings, and the like constructed of a number of blocks or sections adapted to interlock with one another in such a manner that girders, joists, or the like for supporting the same are unnecessary.

The blocks of which my floor or the like is constructed are composed of terra-cotta or other suitable material, each block being provided with inclined projections on its sides or edges, which will enable the said blocks to be regarded as "voussoirs." Each block, besides having inclines as above referred to, has also oppositely-arranged inclines which form abutments or surfaces against which the voussoir-surfaces of adjacent blocks will bear.

To enable my invention to be fully understood, I will describe the same by reference to the accompanying drawings, in which—

Figure 1 is an isometric view of a block constructed according to my invention; and Fig. 2 is a view of a smaller block, the use of which is hereinafter described. Fig. 3 is a section on the line 3 3, Fig. 1. Fig. 4 is an isometric view illustrating the construction of a floor with blocks constructed according to my invention. Fig. 5 is a section on the line 5 5, Fig. 4.

a a indicate my improved blocks, and *b c* are the two sets of inclined projections formed thereon, the inclines *b' b'* of the projections *b* extending inwardly from the top toward the bottom, as clearly shown in Fig. 3, and being the surfaces which constitute the block a voussoir, while the inclined surfaces *c' c'* of the projections *c* are those which form abutments upon which the voussoir-surfaces *b' b'* of adjacent blocks bear.

It will be noticed by reference to Figs. 1 and 2 that the inclined surfaces *b' b' c' c'* are formed at both the ends and the sides of the block, so that the support which each block receives from adjacent blocks is as effective at the ends as at the sides.

In addition to the support which each block receives owing to the contact of its surfaces *b' b'* with the surfaces *c' c'* of adjacent blocks it also receives a further support owing to the contact of the lateral surfaces b^2 b^2 c^2 c^2 of the projections *b c* with the corresponding surfaces of adjacent blocks and which exert a shearing pressure upon one another under any tendency of one block to take up a position in a plane different from that of the interlocked adjacent block. This further support tends to prevent the sagging or bulging of the floor and so reduces or obviates lateral thrust upon the walls of the building.

In constructing a floor with blocks made according to my invention a series of blocks is built into the wall of the building, as shown in Figs. 4 and 5, in such a manner that the projections *c c* of the blocks will project beyond the face of the wall. A temporary staging or centering is also erected to carry the floor during construction. Upon this staging against the row of blocks thus built in is placed another row of blocks in such a manner that the inclined surfaces *b' b'* thereof lie upon or against the surfaces *c' c'* of the blocks in the wall, the several blocks of this row interlocking at the ends with one another owing to the incline *b'* of each block lying upon or against the corresponding incline *c'* of the adjacent block and also interlocking owing to the contact of the faces b^2 b^2 and c^2 c^2, as hereinbefore described. Against the row of blocks thus laid is arranged a second row in a similar manner, except that I prefer to arrange the said blocks so that the blocks of adjacent rows shall break joint, as clearly shown in Fig. 4. In order to permit of this break-joint arrangement, I make use of the small or half blocks shown in Fig. 2, which are placed at the ends of alternate rows.

It will be noticed that blocks are built all around the wall, so that the floor is supported not only at the ends, but at the sides. The blocks having been thus laid, grouting or cement is poured in to fill the spaces between them, and to facilitate the introduction of this cement and to enable it to flow freely between the blocks I arrange the projections *b c* of each block with spaces between them, which form channels *d d'*, and I also groove

the said surfaces, as at *e e*. In practice the channels *d' d'* between the center projections *b c* of each block are wider than the channels *d d*, so as to leave openings for the introduction of the cement. The spaces between the blocks having been thus filled and the whole having been allowed to set, the staging or centering beneath the same can be removed, the whole floor constituting what may be regarded as a "single slab," the weight of which will be entirely carried upon the walls without any lateral thrust.

When large floors are required, it may in some cases be considered advisable to employ girders at such points as will divide the floor area into sections, which can be conveniently floored in the manner hereinbefore described.

In order to lighten the floor as much as possible, I advantageously form the blocks with recesses *f f*, which recesses, when the said flooring is to be covered with floor-boards, may be filled with wooden blocks to which the said boards can be attached.

Although I have chiefly described my invention as applied to a floor, it will be obvious that it is also applicable for the construction of walls or partitions, the interlocking of the blocks preventing the lateral and vertical displacement of the same when placed on edge.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. A floor, wall or the like composed of blocks having upon the sides and ends oppositely-inclined projections *b*, *c* so arranged that the inclines *b*, *b* of one block are adjacent to or in contact with the incline *c*, *c* of adjacent blocks, substantially as described.

2. Blocks for the manufacture of fireproof floors and the like, constructed with oppositely-inclined projections, that is, with the set of projections *b*, inclining inwardly and the set of projections *c*, inclining outwardly, and whereby the inclines *b'*, of one such block may be placed adjacent to or in contact with the inclines *c'*, of a similar block or blocks.

3. Blocks for the manufacture of fireproof floors or the like, having the oppositely-inclined projections *b*, *c*, as set forth, and having recesses *f*, *f*, in the body of the block, substantially as and for the purpose described.

4. A fireproof floor or wall made with blocks having the inclined projections *b*, *b*, of one block adjacent to or in contact with the oppositely-inclined projections *c*, *c*, of adjacent blocks, and with a first row or series of such blocks built into the wall of a building, leaving some of the inclined projections extending beyond the face of the wall for interlocking with the next adjacent row, and the successive rows being similarly disposed, the blocks of one row breaking joint with those of its adjacent row or rows.

JOHN TREADWAY HANSON.

Witnesses:
G. F. REDFERN,
G. F. TYSON.