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CONSTRUCTION OF WALLS, PARTITIONS, AND THE LIKE

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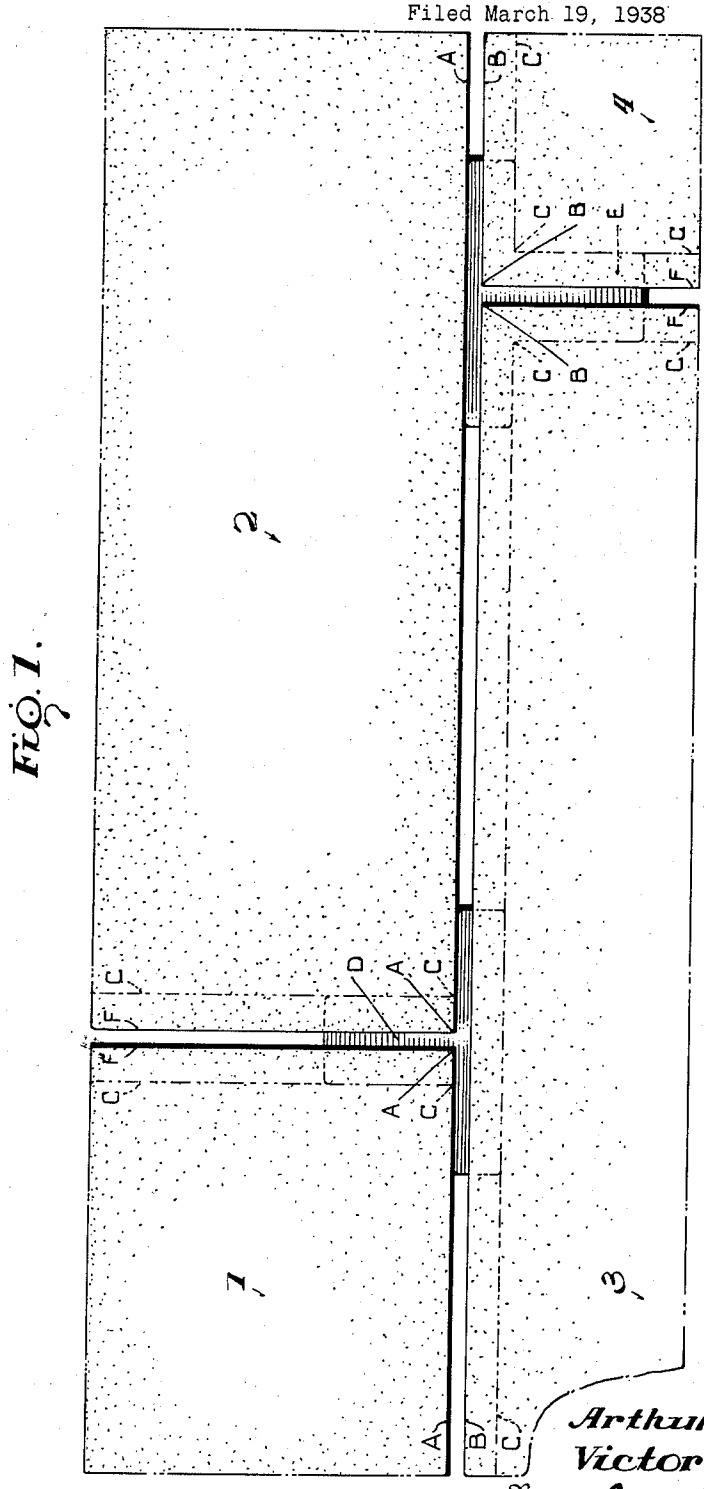


Fig. 1.

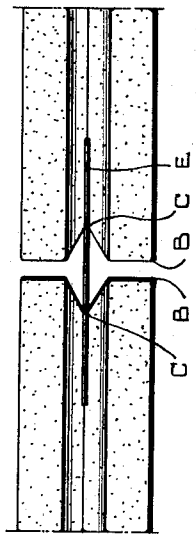


Fig. 3.

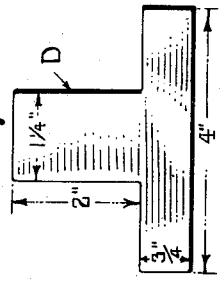


Fig. 2.

Inventors

Arthur Henry Douglas.

Victor Lefebure

By Roy F. Steward their Attorney

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CONSTRUCTION OF WALLS, PARTITIONS, AND THE LIKE

Arthur Henry Douglas and Victor Lefebure, London, England, assignors to Imperial Chemical Industries Limited, a corporation of Great Britain

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10 Claims. (Cl. 72—107)

This invention relates to the construction of walls, partitions and the like from building blocks, e. g. cellular plaster blocks of the kind described in British specification 381,155 or Portland cement-coke breeze blocks such as are commonly used in the building trade for partition walls.

This invention has as an object to devise a new method of assembling such building blocks. A further object is to devise a new method of assembling such building blocks which will ensure the correct alignment of the blocks. A further object is to devise a new method of assembling such blocks which will increase the strength of the final structure. Further objects will appear hereinafter.

These objects are accomplished by the following invention.

We have found that we can achieve these objects if we use blocks at least three edges of which are slotted or grooved lengthwise, either along the whole of their length or adjacent to the corners, and we assemble the blocks with the aid of T-shaped dowel plates, which extend into the gaps formed by the grooves at the corners of the blocks, and are adapted to co-operate with the grooves in aligning the blocks, the grooves preferably being V-shaped in cross-section to facilitate correct alignment.

The invention is further illustrated with reference to the accompanying drawing.

Figure 1 is an elevation of parts of and the joints between four building blocks. The blocks are shown as if there were no mortar between them, so that the parts of the dowel plates in the corners can be seen. Figure 2 shows one of the dowel plates, while Figure 3 shows the joint between blocks **3** and **4** of Figure 1 as seen from above, block No. 2 having been removed.

Referring to Figure 1: **1**, **2**, **3** and **4** are four blocks, of which the lines A—A represent the bottom edges of blocks **1** and **2**, and the lines B—B represent the top edges of blocks **3** and **4**. The lines A—F and B—F represent the vertical edges of the blocks. The six dotted lines C—C show the position of the bottom of the V-shaped grooves which are cut in the top and two side edges of each of the blocks. At each of the corners there is shown and shaded the positions of the dowel plates D and E. The arms of the dowel plate D rest in the groove on the top edge of block **3**, while the stem of dowel plate D reaches upwards, lodging in the grooves in the short edges of blocks **1** and **2**. As all the grooves are ½'' (half-inch) deep, while the arms of the dowel plate are ¾'' (three-quarter-inch) thick, blocks **1** and **2** are raised by ¼'' (quarter-inch) above block **3**, while the width of the stem of dowel plate D similarly causes a gap of ¼'' (quarter-inch) between blocks **1** and **2**. Under working conditions these ¼'' (quarter-inch) gaps would usually be filled with mortar, but this has been removed to show parts of the dowel plates. The parts which show in this manner are heavily shaded, while the positions of those parts of the dowel plates which cannot be seen, owing to their being located in the grooves, are shown in thick dotted lines and light shading. The arms of the dowel plate E rest in the grooves running along the long edges of blocks **3** and **4**, while the stem in this case runs downwards in the grooves, along the short edges of blocks **3** and **4**. In a similar manner, these dowel plates hold the blocks apart, to make room for the mortar, besides holding the blocks in correct alignment. In the preferred form of our invention we use blocks measuring 2' (two feet) by 1' (one foot) and from 2'' (two inches) to 4'' (four inches) thick, and the grooves as shown in Figure 3 may be from ⅝'' (five-eighth-inch) across to ½'' (half-inch) deep. The dowel plates may be made of No. 20 gauge mild steel, the arms and stem of the T each being about 2'' (two inches) long, and the arms being ¾'' (three-quarter-inch) and the stem about 1¼'' (one-and-a-quarter-inches) in width. When assembling the wall care is taken that the arms of the T are bedded into the top grooves of each course of blocks before the next course is laid, and the blocks are set with or without mortar.

The invention is equally useful when a wall is being built without mortar, in which case T-shaped dowel plates are used with slightly narrower stem and arms, or else deeper grooves, so that the blocks in this case will be touching each other along all their edges. It is, of course, advantageous, from the point of view of ensuring correct alignment, that the plates should engage the bottoms of the grooves, which are preferably made V-shaped in cross-section to facilitate correct alignment or centering of the blocks.

The widths of the plates and the depths of the grooves given above are in no way critical, neither is the gauge of the steel used. For different purposes and for different sizes of blocks, it may be advantageous to use deeper grooves and broader dowel pieces, or the reverse.

This invention is a valuable advance in the art, as it enables the alignment of plaster blocks to be made with ease, especially making it easier

to get a finished wall of good appearance. When the dowel pieces are set in mortar, they materially strengthen the wall, and the mechanical anchorage between the blocks, which they supply, increases the fire-resistance of the completed wall, particularly as the metal is protected by the block and jointing materials.

As many apparently widely different embodiments of this invention may be made without departing from the spirit and scope thereof, it is to be understood that we do not limit ourselves to the specific embodiments thereof except as defined in the appended claims.

We claim:

1. A wall, partition or the like comprising a plurality of building blocks arranged in layers one above the other, at least three edges of each block being provided with grooves aligned with the grooves of adjacent blocks, and T-shaped dowel plates arranged between and at the corners of adjacent blocks, each dowel plate having oppositely extending arms which extend into the horizontal groove of a lower layer of blocks and a stem portion which extends upwardly into the adjacent opposed vertically-extending grooves of the blocks in the layer next above to provide a rigid three-point contact between at least three adjacent blocks.

2. A wall, partition or the like as set out in claim 1 in which the grooves are V-shape in cross-section and in which the dowel plates engage the bottoms of the grooves whereby the blocks are centered relative to each other by said dowel plates.

3. A wall, partition or the like as set out in claim 1 in which at least one arm of each of the T-shaped dowel plates is of such width relative to the depth of the grooves that it separates to a predetermined distance the blocks between which it lies.

4. A wall, partition or the like as set out in claim 1 in which the dowel plates are embedded in jointing material.

5. A wall, partition or the like as set out in claim 1 in which adjacent dowel plates are spaced from one another.

6. A wall, partition or the like as set out in claim 1 in which the length of each arm of the T-shaped dowel plates is less than the length of the respective edge of the block contacted thereby.

7. A wall, partition or the like as set out in claim 1 in which not more than three edges of each block are provided with grooves.

8. A wall, partition or the like as set out in claim 1 in which each dowel plate extends into the two opposed vertical grooves in the adjoining ends of each two adjoining blocks constituting one of the layers and into each of the two horizontal grooves leading from said adjoining vertical grooves.

9. A wall, partition or the like comprising an assembly of building blocks, at least three edges of each block being provided with grooves aligned with the grooves of adjacent blocks, and T-shaped dowel plates arranged between and at the corners of adjacent blocks, each dowel plate extending into the aligned grooves of at least three adjacent blocks to provide a rigid three point connection therebetween.

10. A wall, partition or the like comprising an assembly of building blocks, at least three edges of each block being provided with grooves aligned with the grooves of adjacent blocks, and dowel plates arranged between and at the corners of adjacent blocks, each dowel plate comprising a plurality of arms arranged to provide at least two right angular portions rigidly connected in one piece and extending into the aligned grooves of at least three adjacent blocks to provide a rigid three point connection therebetween, each right angular portion extending into the grooves of two edges of each of at least two adjacent blocks.

ARTHUR HENRY DOUGLAS.
VICTOR LEFEBURE.