

March 23, 1937.

I. B. SILL

2,074,813

CONCRETE WALL BLOCK CONSTRUCTION

Filed Jan. 2, 1936

Fig. 1.

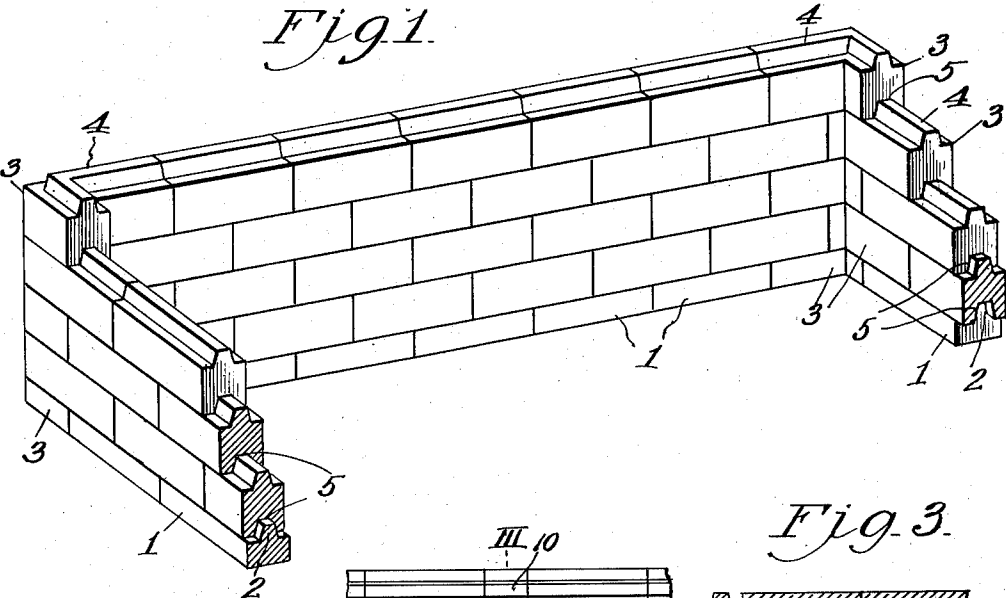


Fig. 2.

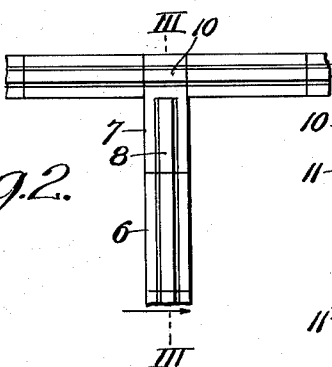


Fig. 3.

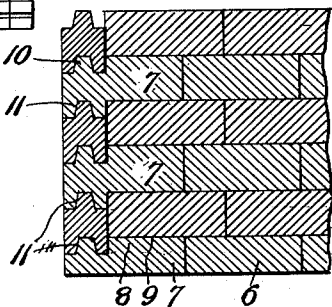


Fig. 4.

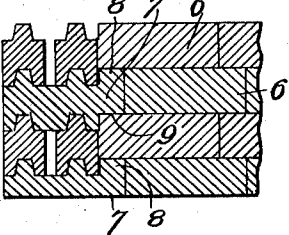


Fig. 6.

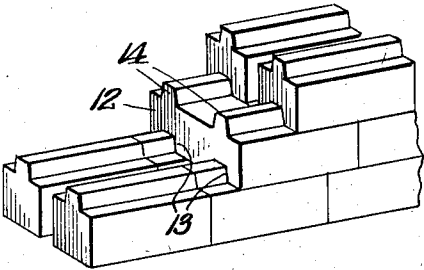
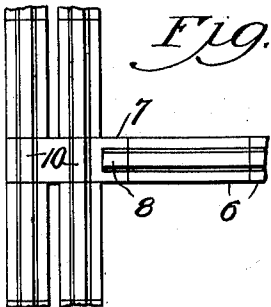


Fig. 5.



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2,074,813

CONCRETE WALL BLOCK CONSTRUCTION

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Application January 2, 1936, Serial No. 57,100

1 Claim. (Cl. 72—38)

This invention relates to building construction of that class employing blocks interlocked together by tongues and grooves, my special object being to provide a construction giving greater rigidity and strength at the corners and at the junction therewith of the walls, and at the junction of opposite walls with partitions connecting such walls.

A further object is to produce such a structure composed of interlocked blocks, which is impervious to moisture and can be economically erected.

With these objects in view, the invention consists in certain novel and useful features of construction and combinations of parts, as hereinafter described and claimed; and in order that it may be fully understood, reference is to be had to the accompanying drawing, in which:—

Figure 1 is a fragmentary perspective view of an interlocked block structure of single thickness type, embodying the invention.

Figure 2 is a plan view of a portion of a wall of the structure and of part of a partition connecting with said wall at an intermediate point in the length of the latter.

Figure 3 is a vertical section on the line III—III of Figure 2.

Figure 4 is a vertical cross section of a wall of the double type providing an air space through the wall.

Figure 5 is a fragmentary plan view showing the relation between a partition and the inner and outer members of the double wall structure.

Figure 6 is a fragmentary perspective view showing a lock-block for interlocking engagement with blocks of directly underlying and overlying courses of both wall members, each lock-block also forming part of the course between those interlocked together by the lock-block.

Referring now to the drawing in detail, and first to the single wall type; 1 indicates blocks forming the base course of the walls, each block having an upstanding central longitudinal upwardly-tapering tongue 2, and said blocks of each wall are fitted together endwise and united by water-proof cement. At the corners are locking blocks 3 of right-angle form for a building in which the opposite walls are parallel, as shown, the corner or locking blocks having conforming angular ribs 4. The wall blocks of the remaining courses up to the height desired, including all corner blocks except those of the base course, are of similar construction and dimensions, except that they are preferably of twice the height of the blocks 1, and have grooves 5 in their under-

sides for receiving the tongues of the blocks of the courses upon which they rest, and all horizontal joints and tongue and groove joints, as well as all vertical joints, are made waterproof by the interposition of waterproof cement.

Each corner or locking block, has one of its arms corresponding in length with the base course blocks and the other arm half such length, as indicated in Figure 1, and by preference, corner blocks of contacting courses, are set in reversed relation, that is to say, where the short arm of one block forms part of the end wall, and its long arm part of the back wall,—for example, the long arms of the corner blocks of the next course, lower and higher, will form part of the said end wall and the short arms part of the said back wall. It will thus be apparent that each corner block long arm, through its tongue and groove, interlocks not only with the short arm of the underlying corner block, but projects beyond the same and interlocks with the adjacent wall block, aligned with and abutting said short arm, and that each short arm interlocks with the long arms of the corner blocks of the next higher and lower courses.

The construction described makes the corners of the building exceedingly strong and rigid, and, through their interlocked relation with the end-most blocks of the walls, imparts greater rigidity and strength to the latter than would be obtainable otherwise, as the provision of the long and short arms insures break-joint relationship between the blocks of adjacent courses.

If a structure to be erected is equipped with a partition, the latter will consist of blocks 6 like the regular wall blocks and special partition anchoring blocks 7, the latter occurring only in alternate partition wall courses (see Figure 3), and having longitudinal tongues 8 and grooves 9, and top cross tongues 10 and bottom cross grooves 11. In the base course blocks, the bottom grooves 9 and 11 may be dispensed with as functionless.

The alternate course end or anchoring blocks of the partition, which lack the cross tongues and grooves, abut the inner faces of opposite walls (Figure 3), while the end blocks equipped with the cross tongues and grooves, are fitted with their outer ends between adjacent blocks of such opposite walls, the cross tongues 10 fitting in bottom grooves of blocks of the next higher wall courses, and the cross grooves 11, receiving the tongues of the wall blocks of the next lower course. The blocks of the partition being cemented together as explained, and to the walls, as well as interlocked together and to the said

walls, provide for a most substantial tie and brace connection between connected or opposite building walls at one or more points, or, in the event cross partitions are desirable, between a wall and partition or between two partitions. In this connection it will be noted that the longitudinal tongues of all of the end partition blocks terminate in the planes of the inner faces of the adjacent walls, and therefore interlock only with blocks of the partition itself.

In Figures 4 to 6, appears a double wall construction providing an air space, and the use of a type of lock block for fastening the inner and outer wall members together at desired intervals along their length. The lock blocks 12, one only appearing, form parts of all intermediate wall courses. They are interlocked with blocks of the contacting courses of both or all members, and are longitudinally aligned with and adapted to abut endwise against wall blocks in the same course. Each lock block 12 has two bottom grooves 13 for receiving tongues of the underlying wall blocks, and two tongues 14 to engage the grooves of overlying wall blocks, and said lock blocks are cemented to all contacting blocks.

The blocks of the double wall members are of the same type and construction as in the single wall described, and opposite inner wall members

(Figures 4 and 5) are adapted to be connected by a partition or partitions such as already described, although it may be desirable, to interlock the end partition blocks to both wall members by simply providing each end partition block of all, or selected courses, with two top cross tongues and two bottom grooves, as shown.

It will be apparent that the structures of both single and double wall type, with proper waterproof cemented joints, and with blocks of proper quality, will be impervious to water, and that buildings can be erected in accordance with the invention, of any angular form, with speed and at comparatively low cost.

I claim:—

The combination of a wall and a partition composed of similar horizontal courses of blocks tongued and grooved together longitudinally at their upper and lower faces, every alternate partition course abutting endwise the inner face of the wall, and the end blocks of the other courses of the partition, extending through the wall, the last-named end block having at its opposite horizontal faces, cross tongues and grooves respectively engaging and receiving the longitudinal grooves and tongues of immediate overlying and underlying blocks of the wall.

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