A. C. SHIMER.

CEMENT BLOCK CONSTRUCTION.

APPLICATION FILED MAR. 4, 1915.

1,162,409. Patented Nov. 30, 1915.

Fig. 1.

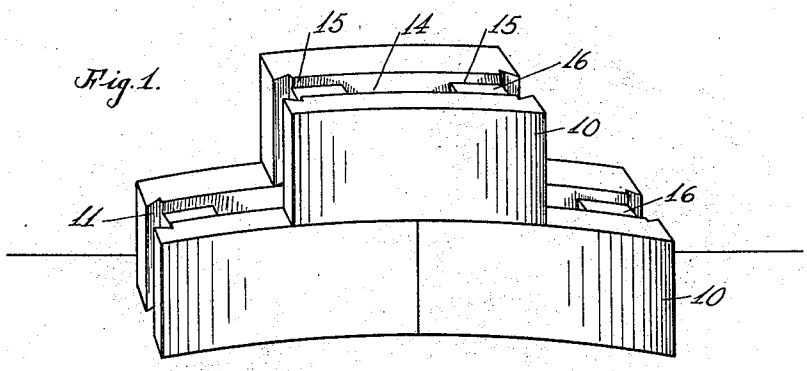


Fig. 2.

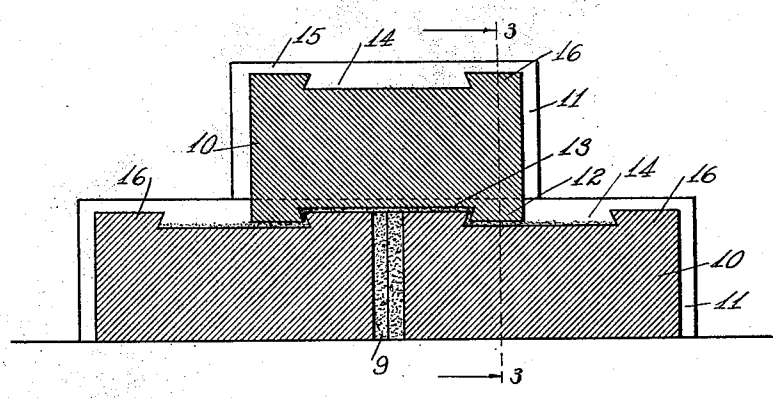


Fig. 3.

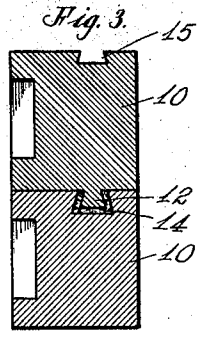
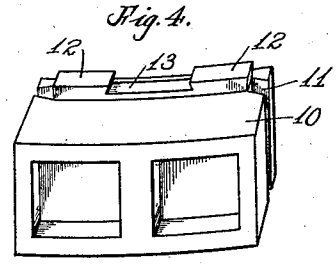


Fig. 4.



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CEMENT-BLOCK CONSTRUCTION.

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To all whom it may concern:

Be it known that I, ALLEN C. SHIMER, a citizen of the United States, and a resident of Anderson, county of Madison, and State of Indiana, have invented a certain new and useful Cement-Block Construction; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like letters refer to like parts.

The object of this invention is to simplify the assembling and the efficiency of concrete blocks for building silos and other structures.

One feature of the invention consists in making one form of block out of which the entire structure may be built and said block being so arranged that its location in proper place is predetermined and, therefore, it requires no care or time or expertness in locating the block in the structure and most anybody can build up the structure with such blocks and cannot put the blocks in wrong places, as they can only fit together one way. Said blocks are also made in such manner that they prevent longitudinal displacement and often vertical displacement, as well as lateral or outward displacement. In other words, the blocks, after being assembled, cannot be displaced. This is also accomplished without tie bars or bands.

The full nature of the invention will be understood from the accompanying drawings and the following description and claims.

In the drawings, Figure 1 is a perspective view of the structure formed of three of said blocks. Fig. 2 is a central vertical section through said structure shown in Fig. 1. Fig. 3 is a section on the line 3—3 of Fig. 2. Fig. 4 is a perspective view of one of said blocks turned upside down.

The block 10 has vertical end grooves 11 adapted to register with each other so that when filled with cement 9 the adjacent blocks will be interlocked.

On the underside of each block and near each end thereof, there is a projecting portion 12 and between said projecting portions 12 of said block, there is a recess with a reduced projecting portion 13. This reduced projecting portion 13 extends equidistant beyond the middle of the block and the projecting portions 12 extend equidistant from the end of the block.

In the upper sides of the blocks there is a central recess 14 in vertical alinement or immediately over the reduced shoulder 13 on the underside and a reduced recess 15 near each end immediately over and in vertical alinement with the projecting portions 12 on the underside. In the form herein shown those projections and recesses are in the same plane as the end recesses 11, although that is not necessary. In all of the blocks the projections and recesses are equidistant from one side of the blocks. Shoulders 16 are in the upper side of each block in each end of the recess 14.

In assembling the blocks or building a structure, a superimposed block centrally overlaps the adjacent ends of two blocks below, as shown in Fig. 2, so that the projecting portions 12 on the underside of the upper block will enter and fit in the recesses 14 in the two lower blocks and said lower projections 12 interlock with the shoulders 16 on the upper sides of the blocks below. The lower projecting portions 12 are about half as long as the recesses 14 so that the lower projections 12 on the two adjacent blocks will substantially fill one of the recesses 14 in the upper side of a lower block and each projection 12 fits in one end of said recess 14 and against a shoulder 16.

The recesses in the upper side of the blocks are filled with liquid cement 9 so that when the cement is set the blocks will be more tightly held in place and the joints be water tight. The projections 12 and 13 are removed from the under sides of the bottom layer of blocks when it is desired to start the structure on a solid foundation. Otherwise the blocks are all of the same formation.

It is thus seen that the projections 12 and shoulders 16 prevent longitudinal displacement of the blocks, against any reasonable strain and in circular structures like silos, the outward thrust tends to cause the longitudinal separation or displacement of the blocks. This prevents this result. Also lateral displacement of these blocks cannot take place because the projections 12 and 13 enter corresponding recesses in the tops of the blocks below them. While the tendency toward vertical displacement is less than either the longitudinal or lateral displacement, still that is prevented largely by the cement binding between the joints of the blocks and can be entirely prevented by making the projections and recesses dove-

tailed, as shown. When thus dove-tailed, however, the width of the narrow portion of each recess is enough greater than the width of the wider portion of each projection so that the projections can be easily inserted in the recesses. It is not very material whether the shoulders which project from the recesses are in the upper or lower sides of the blocks so long as they interlock, substantially as shown.

The invention claimed is:

1. A cement building block having on one side a longitudinal projection narrower than the block and with the end portions projecting more than the intermediate portion, a longitudinal recess in the opposite side of the block and wider than said projection but narrower than the block and in the same plane as said projecting portion, and a shoulder in each end of said recess corresponding with the end projection on the opposite side of said block, whereby the projecting portion on one side of a block will extend throughout its length into the recesses in adjacent blocks and the shoulders on the ends of adjacent blocks be interlocked between the ends of the projecting portions of said blocks.

2. A wall built of overlapping cement building blocks, each having in its upper side a longitudinal recess with the middle portion thereof deeper than the end portions thereof and on its under side a longitudinal projection with its end portions projecting more than its middle portion, and liquid cement in said recesses in the blocks, so the blocks will interlock substantially as shown.

In witness whereof, I have hereunto affixed my signature in the presence of the witnesses herein named.

ALLEN C. SHIMER.

Witnesses:

J. H. WELLS,

R. G. LOCKWOOD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."