J. H. McKENNEE.

CONCRETE CONSTRUCTION.

APPLICATION FILED JUNE 5, 1912.

1,102,991.

Patented July 7, 1914.

2 SHEETS—SHEET 1.

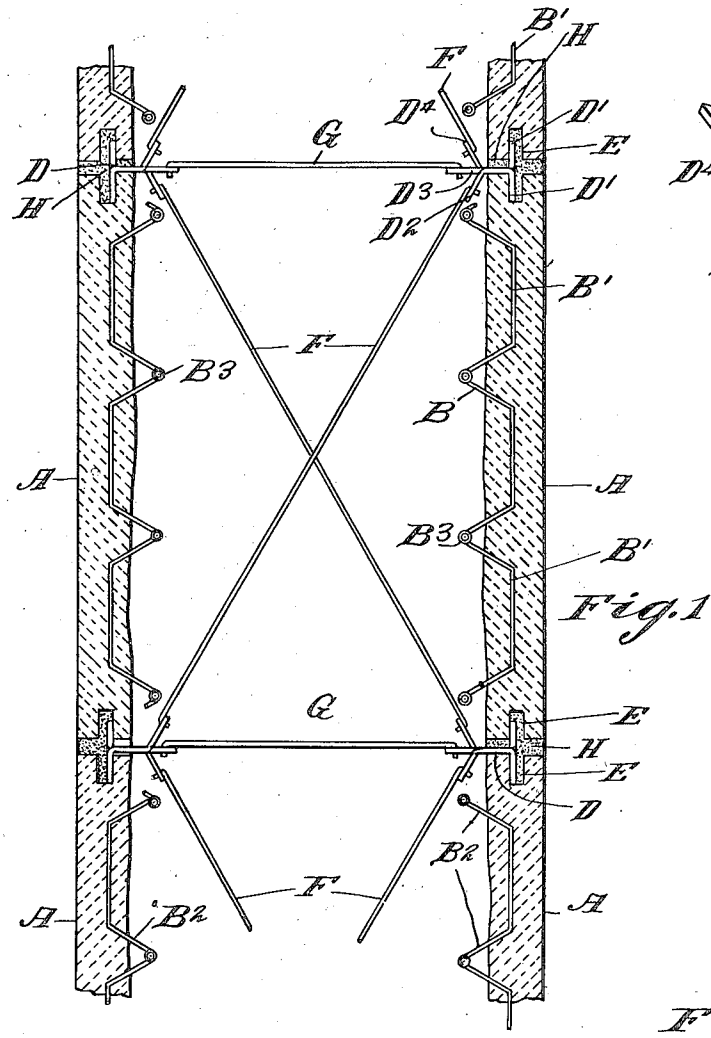


Fig. 1

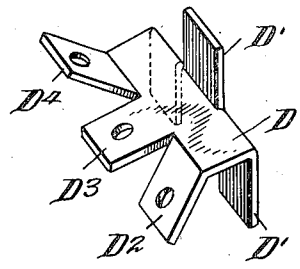
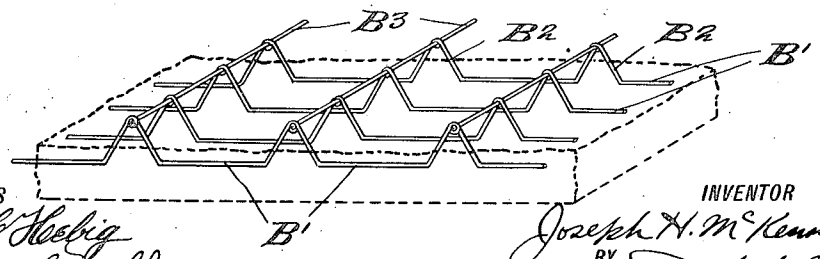


Fig. 3.

Fig. 2.



WITNESSES

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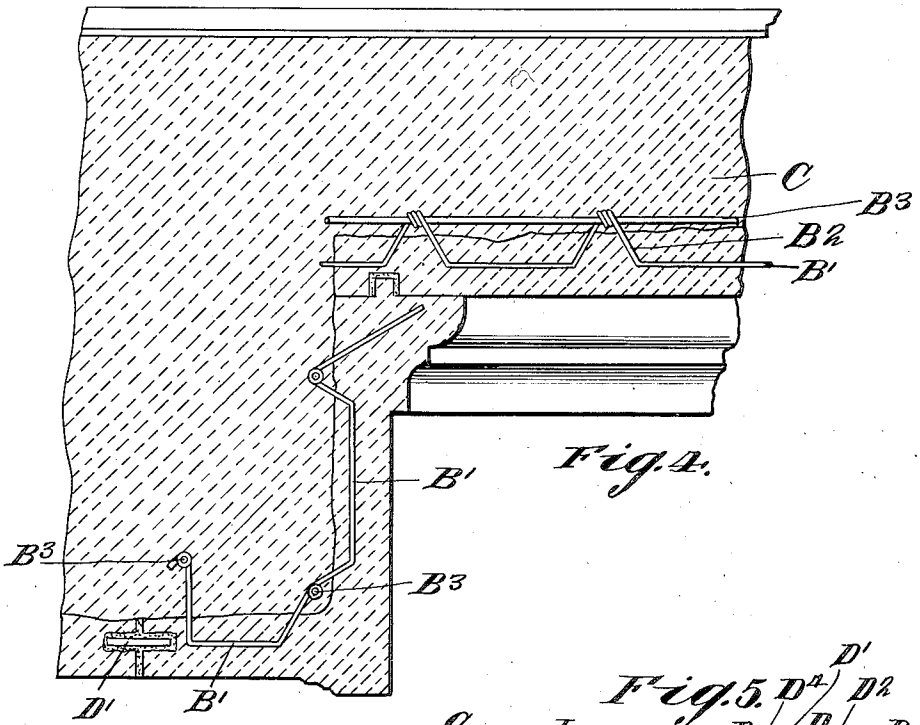

Fig. 4.

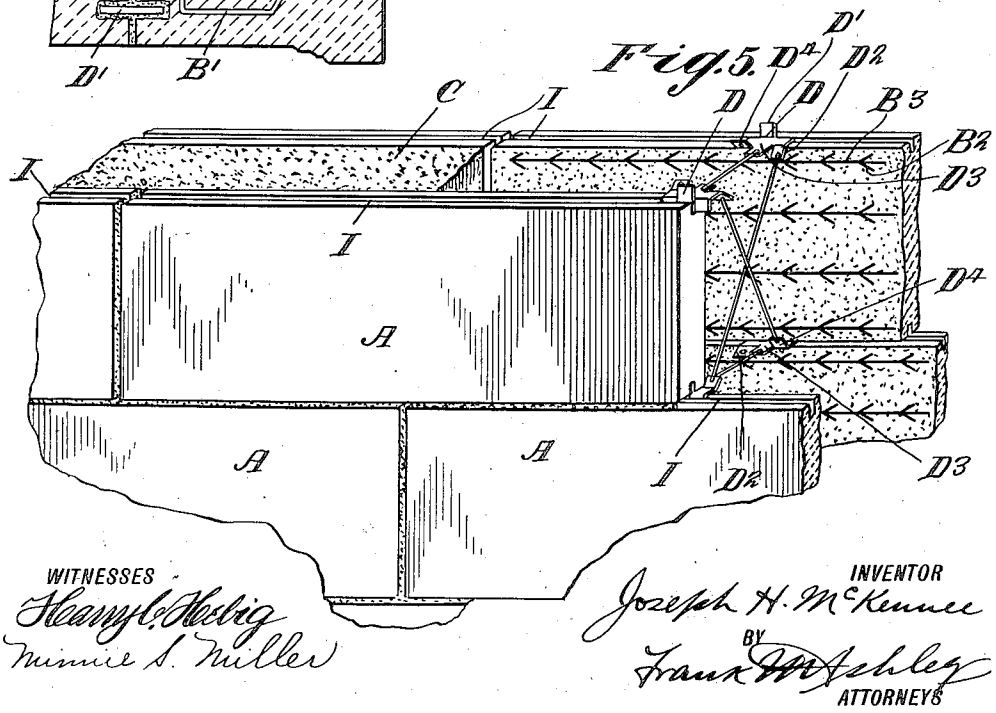

Fig. 5.

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JOSEPH H. McKENNEE, OF NEW YORK, N. Y.

CONCRETE CONSTRUCTION.

1,102,991. Specification of Letters Patent. Patented July 7, 1914.

Application filed June 5, 1912. Serial No. 701,734.

To all whom it may concern:

Be it known that I, JOSEPH H. McKENNEE, a citizen of the United States, and a resident of New York city, borough of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Concrete Constructions, of which the following is a specification.

My invention relates to building walls and the object of my invention is to provide a wall made of blocks of reinforced cement material.

A further object is to provide a building block of reinforced cement material of much less weight per square foot of area than blocks for this purpose heretofore made.

A further object is to provide a wall having tie rods to hold the blocks in fixed relation to each other and tie clips which serve to aline the blocks in building the wall.

Referring to the drawings which form a part of this specification, Figure 1 is a cross sectional view of a wall embodying my invention. Fig. 2 is a perspective view of a block, indicated in dotted lines, and disclosing one form of the metal reinforcing construction. Fig. 3 is a perspective view of one of the tie clips. Fig. 4 is a sectional view of a portion of a wall with the filling material abutting the inner sides of the blocks. Fig. 5 is a perspective view of a portion of a wall disclosing an outer face thereof and the space between the outer and inner blocks and the means used to hold the blocks in their proper relative positions.

A, A, etc., indicate molded blocks of concrete material of a thickness of about one inch or less, the exposed surfaces of which may present plane or ornamental surfaces. Embedded in each block is a metal reinforcement B, preferably made of wire as illustrated. This wire reinforcing material is bent so that portions B′ of it are embedded in the block about half way between its sides as shown, and with loop portions B^2—B^2 extending beyond the inner faces of the blocks as shown and preferably connected together by rods B^3—B^3 which prevent the portions B^2 from being bent when the concrete filling material C is poured between the blocks to form a solid wall construction and combined with loops B^2 and the block, form a truss which strengthens the block.

D—D, indicate clips formed of sheet metal, the portions D′ being located in the respective recesses E formed in the top and bottom edges of each block, and the portions D^2—D^3 and D^4 extending beyond the inner faces of the blocks, and bent as illustrated, the end of each portion D^2—D^3 and D^4 being provided with a hole to receive one end of a tie rod F or a cross rod G, as shown, by means of which the respective sides of the walls are held firmly together. As the blocks are laid one above the other and the tie clips placed in position, cement H is laid between the edges of the blocks to properly set same and also serves to hold the tie clips in position and keep them from rusting. The wall may be left hollow for some purposes if desired, but usually I prefer to fill the space between the two rows of blocks with concrete which I pour between them as fast as a single line of blocks is laid opposite to each other, and the concrete flows between the projecting wires B^2 and under the rods B^3 and around the rods F and G and tie clips D, serving to support them, and also adheres to the inner faces of the blocks A, thus forming a monolithic construction.

It may be advisable in some cases to use expanded sheet metal in place of the wire as the reinforcing material, and if so, I form it so that it presents the same characteristic features of construction as that of the wire, that is, I embed a portion in the middle of the block and allow a portion to project beyond the inner face thereof to engage with the filling material C, substantially as above described.

The blocks may be provided with grooves I in each of their edge portions extending their entire length and serving to hold cement material H to form a bond, and assist in leveling the blocks in the process of building.

The construction above described is easy to make and dispenses with temporary forms now so largely in use, and provides a finished wall for the interior of a room so that no lath or plaster is needed, and the method of using and embedding the reinforcing material in the middle of a thin block, permits a block to be made of such light weight that one man may easily lift them into position in building the wall, thus reducing the cost of labor in erecting a building.

Having thus described my invention, I claim as new:—

1. A building block formed of molded material, continuous substantially parallel wire

strands embedded therein, said strands being formed with a plurality of loops projecting from the exterior surface of the material, and transverse strands disposed at the exterior of the blocks and connecting the projecting loops of the adjacent embedded strands.

2. A wall comprising spaced blocks formed of molded material, continuous substantially parallel wire strands embedded in the blocks said strands being formed with a plurality of loops projecting from the exterior of the blocks and rods connecting the projecting loops of the adjacent embedded strands.

3. A wall comprising blocks of molded material spaced apart from each other, each of which is provided with substantially continuous wire strands embedded therein, portions of which extend beyond one face side thereof, and wires connecting said portions of adjacent strands forming a network, each of the blocks being provided with a recess in its edge portions, tie clips held in said recesses, and tie rods connecting said clips.

4. A wall comprising blocks of molded material spaced apart from each other, each of which is provided with substantially continuous wire strands embedded therein, portions of which extend beyond one side thereof, wires connecting said portions of adjacent strands forming a network, each of the blocks being provided with a recess in its edge portions, tie clips held in said recesses, tie rods connecting said clips, and a concrete filling material located between said blocks and engaging with said wire strands.

5. A wall comprising spaced sets of blocks, tie plates connecting said blocks, said plates having projecting portions extending into recesses formed in adjacent edges of the blocks and a plurality of outwardly extending projections, horizontal tie wires connecting the directly opposite plates by engagement with their projections, and diagonal upstanding wires connecting the diagonally opposite plates, and a plastic filling material between the blocks.

6. A wall comprising spaced sets of blocks formed of molded material; tie plates connecting the adjacent blocks, said tie plates having vertical projections seating in recesses in the adjacent blocks, horizontal projections and oblique projections extending into the interior portion of the wall; tie wires connecting the horizontal projections of opposite plates and the oblique projections of the diagonally opposite plates; and a plastic filling material between the spaced blocks.

7. A wall comprising spaced sets of blocks, continuous wire strands embedded in said blocks arranged substantially parallel to each other and having a plurality of loops formed therein, said loops projecting from the blocks, an eye formed in said loops, a rod inserted through the eyes of corresponding parallel loops, recesses formed in the edges of said blocks, tie plates having projecting portions extending therefrom seated in the recesses between adjacent blocks, tie wires connecting the corresponding projections of opposite plates, and a plastic filling material between the spaced blocks.

Signed at New York city, in the county of New York, and State of New York, this 3rd day of June A. D. 1912.

JOSEPH H. McKENNEE.

Witnesses:

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