No. 803,290. PATENTED OCT. 31, 1905.

O. JOHNSON.

BUILDING BLOCK AND WALL CONSTRUCTION.

APPLICATION FILED MAR. 18, 1905.

2 SHEETS—SHEET 1.

FIG. 1.

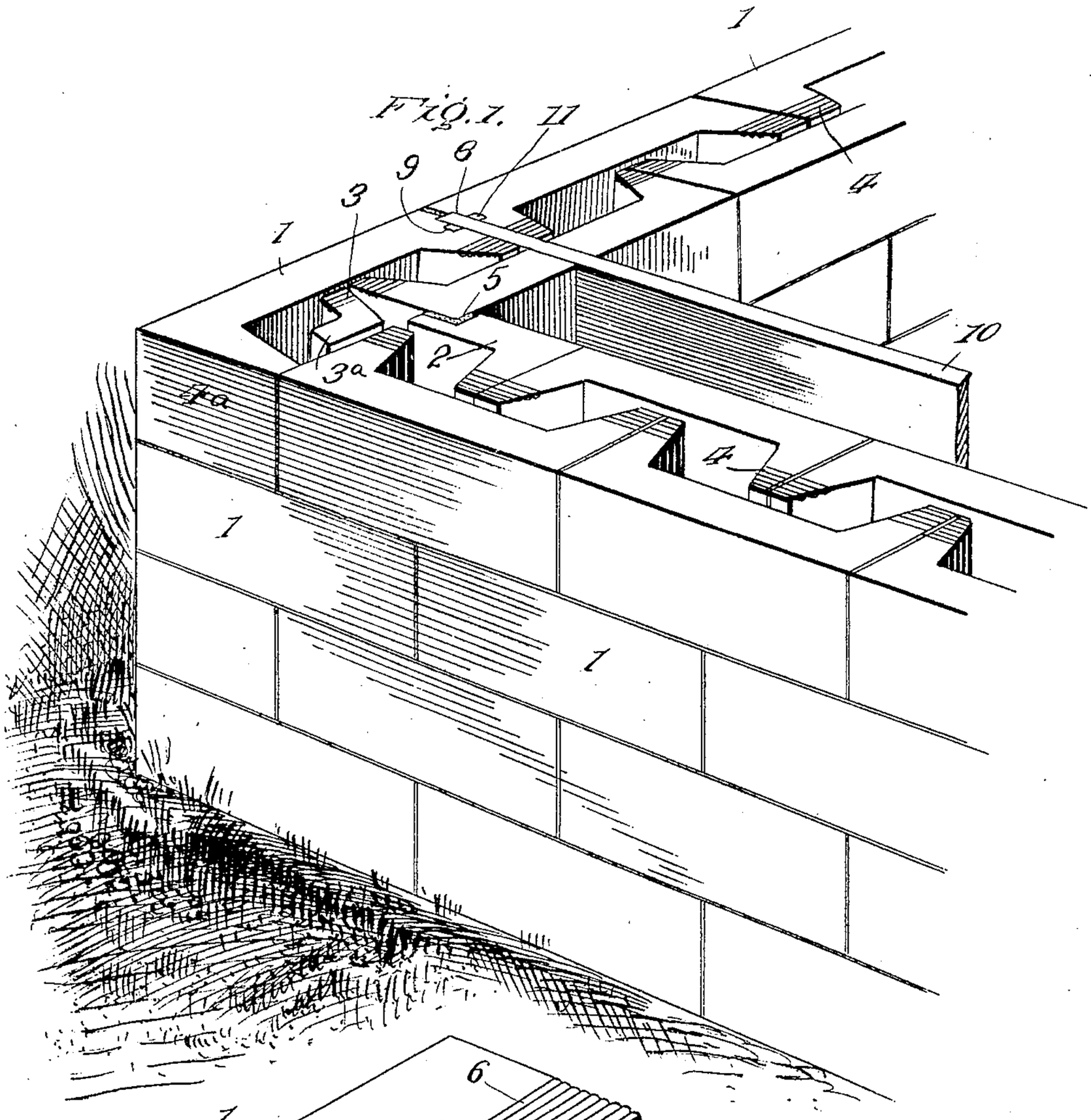


FIG. 2.

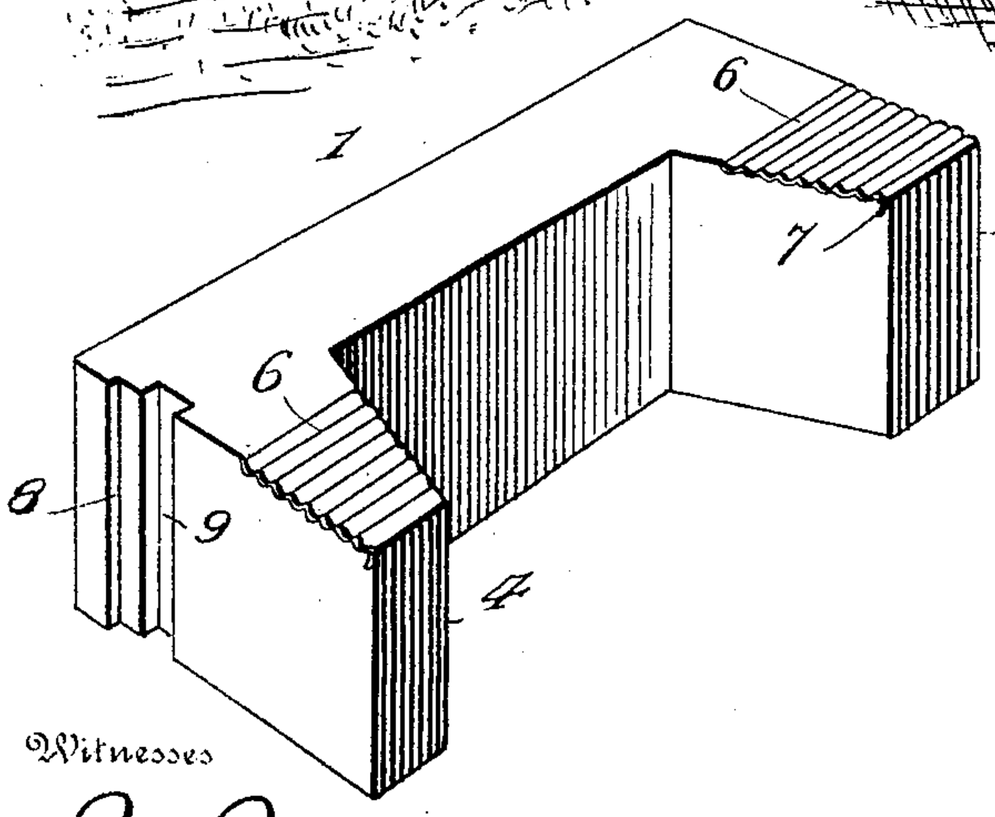
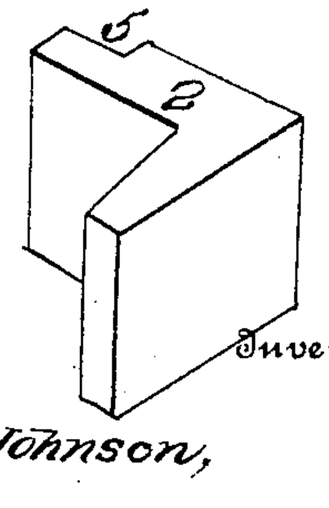


FIG. 7.



Witnesses

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2 SHEETS—SHEET 2.

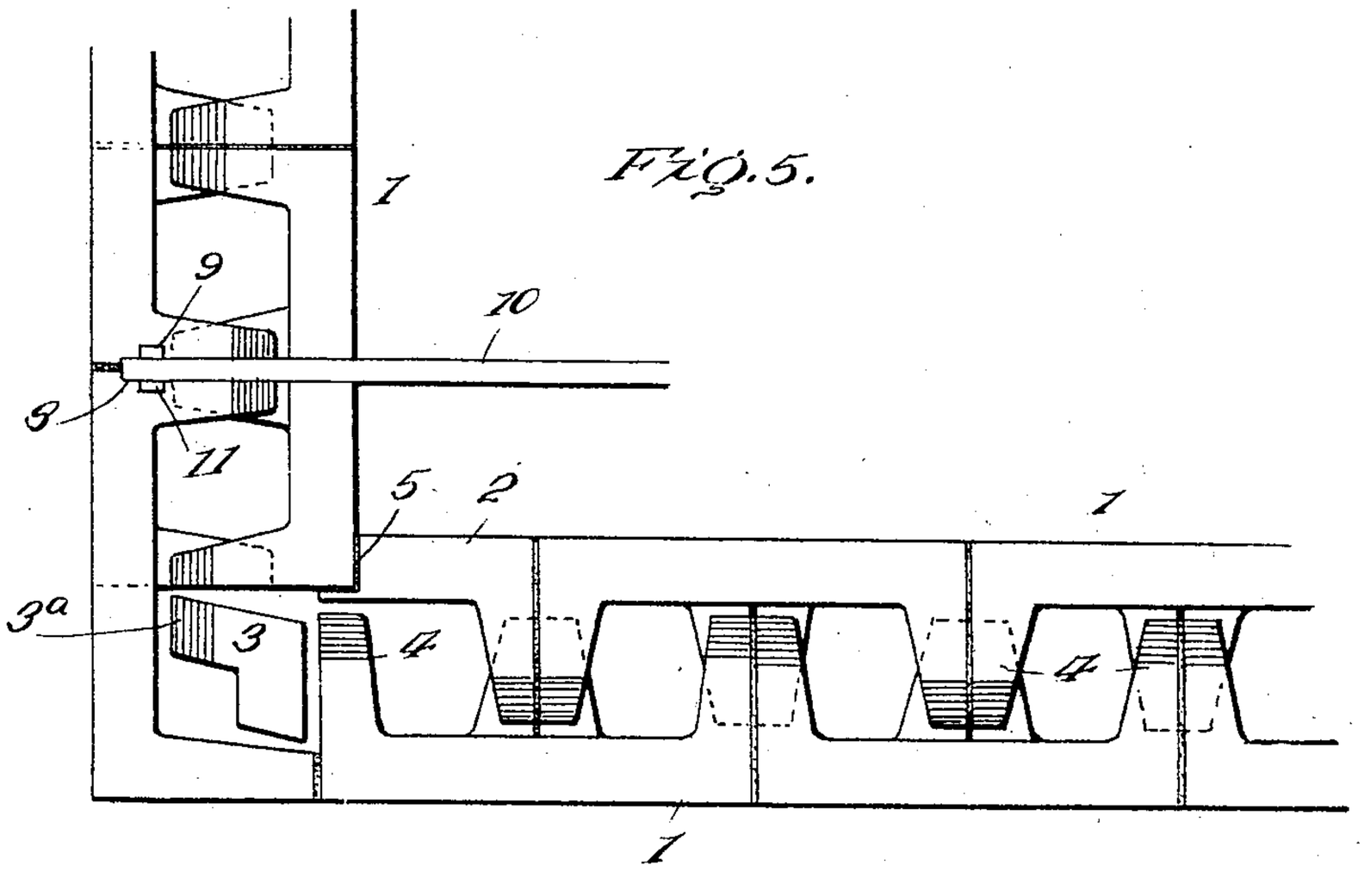
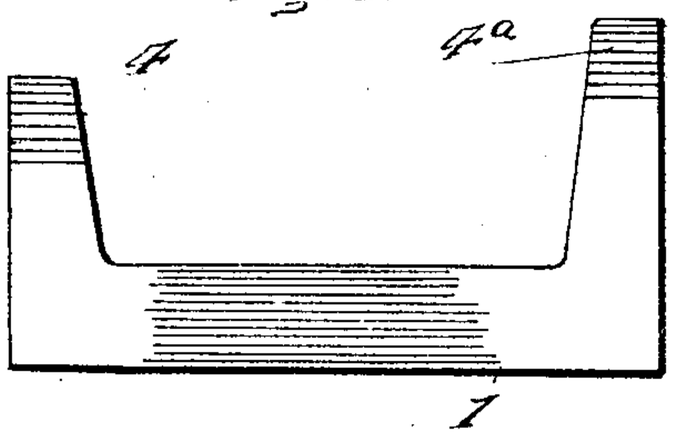


FIG. 5.

FIG. 3.



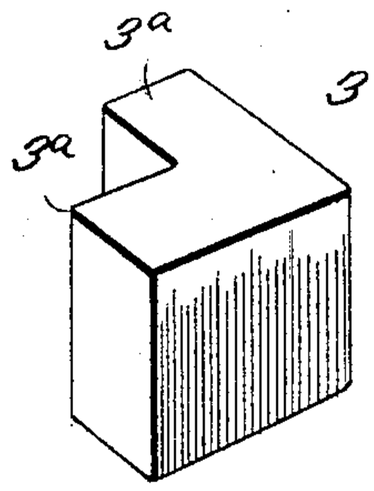


FIG. 4.

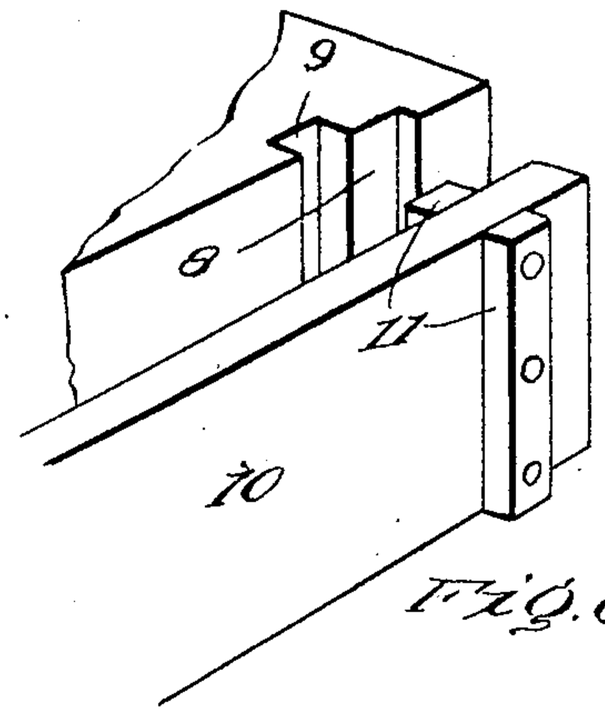


FIG. 6.

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UNITED STATES PATENT OFFICE.

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BUILDING-BLOCK AND WALL CONSTRUCTION.

No. 803,290. Specification of Letters Patent. Patented Oct. 31, 1905.

Application filed March 18, 1905. Serial No. 250,839.

To all whom it may concern:

Be it known that I, OLOF JOHNSON, a citizen of the United States, residing at Estherville, in the county of Emmet and State of Iowa, have invented certain new and useful Improvements in Building-Blocks and Wall Constructions, of which the following is a specification.

This invention relates to construction of building-blocks for making hollow walls; and the essential feature of the invention resides in the provision of a peculiar form of block or blocks and assemblage thereof in making the wall.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and accompanying drawings, in which—

Figure 1 is a fragmentary perspective view showing a corner of a building-wall illustrating the embodiment of the invention. Fig. 2 is a perspective view of one of the major blocks used in the wall construction. Fig. 3 is a plan view of one of the major blocks used at the corner portion of the wall. Fig. 4 is a detail perspective view of one of the filling-blocks used at the corner portion of the wall. Fig. 5 is a fragmentary plan view showing the mounting of joists in the wall construction. Fig. 6 is a broken perspective view looking toward the end portion of one of the joist-supporting blocks. Fig. 7 is a perspective view of one of the minor blocks.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The wall construction forming a part of this invention is composed of a plurality of superposed blocks, which will be designated for the purposes of this description the "major blocks 1," the "minor blocks" 2, and the "filling-blocks" 3. The major blocks 1 are about twice the length of the minor blocks 2 and are provided with lateral or angular end extensions 4. In the straight-wall construction the end extensions 4 are of substantially the same length and are designed to overlap similar extensions of lower and upper major blocks. The minor blocks 2 are provided each with an end extension 5, and when said blocks are in position the extensions 5 are arranged between the two extensions of an adjacent major block, as shown in Fig. 1 of the drawings. The minor blocks 2 are used at the ends of the walls, so as to enable the major blocks of superposed layers to overlap or break joint with the end extensions of the lower major blocks disposed centrally of the end extensions of the upper and lower adjacent major blocks. The arrangement of the blocks 1 is such that the wall is formed with a plurality of air-spaces, the advantages of which are obvious to those versed in this art. As shown in the drawings, the minor blocks 2 are located at the corner of the building construction, one of these blocks being disposed in alternate of the horizontal rows of blocks of the wall, this being necessary to secure the break-joint construction above described. To afford a bond of increased substantiality at the corners of the walls, it is designed that certain of the corner-blocks 1 shall have one of their extensions (indicated at 4^a in Fig. 3) of increased length. Further, the minor blocks 2 used at the ends of the walls are provided at one extremity with vertical cavities 5 to receive the adjacent end of the block in the wall extending at an angle to the said minor block. The cavities 5 are so situated that the minor block is vertically locked in its position when mortar or a like binder is interposed between the adjacent portions of the block in the usual manner. The major blocks each have an end thereof received in the cavity 5 of an adjacent minor block, thus affording a bond firmly bracing the minor block and reinforcing the wall construction in an apparent manner.

At the corners are located the filling-blocks 3, and these blocks comprise angularly-extending wings 3^a. The size of the blocks 3 is such that the same are readily received in the space between the adjacent blocks of the walls at the corners, and the said blocks 3 perform the function of the filler to strengthen and render the building construction more rigid at this portion.

An important feature in the construction of each of the blocks 1 resides in the provision upon the under and upper sides of the extensions 4 and 4^a thereof of roughened or corrugated plates 6. The plates 6 are affixed to the extensions 4 in the operation of molding the block, being embedded in the plastic material in such a manner as to form a part of the block structure. Said plates 6 extend nearly the

length of the extensions 4 and 4ª, and it is preferred that the corner portions of the plates be turned in so as to form projections 7, penetrating the body of the plastic material of which the block is composed and anchoring the plates more firmly to the block structure. As above mentioned, the plates 6 are roughened or corrugated and afford effective means for facilitating the bonding of the blocks together when the same are laid one above the other with mortar between in the customary manner. The mortar enters the spaces between the roughened or corrugated portions of the plates 6 and when hardened forms an interlocking connection between the superposed blocks of important value in construction of walls, as will be obvious.

The invention further embodies peculiar wall construction or block construction to enable the joist of a building to be more firmly positioned and more readily positioned than according to present methods. In carrying out this feature of the invention the ends of the adjacent blocks 1 are formed with vertical recesses 8, said recesses being located near the outer sides of the blocks preferably. The adjacent recesses 8 of the blocks 1 may be formed in the extensions 4, if desired, within the contemplation of the invention, and these recesses are formed with vertical kerfs or grooves 9. The joist is indicated at 10, and near the extremity thereof the same will be provided upon opposite sides with vertical tongues or ribs 11, adapted to be received in the grooves or kerfs 9 at the ends of adjacent blocks 1. The body of the joist will of course pass or be received between the ends of the blocks 1, and near the tongue-and-groove connection, secured by the parts 11 and 9, a space is made by the formation of the recesses 8. The space will readily form a mortar or bonding space, so that after the mortar is received therein the joist will be substantially held in place. The joists of the building may thus be put in position as the walls are being constructed without making necessary the laborious operation of cutting joist-seats in the walls, a common way of putting up joists at the present time. The corrugated or roughened portions of the plates 6 extend transversely thereof to promote the bonding action of the same, and these plates not only serve as connectors between the blocks, but prevent percolation or passage of water or moisture into the block below. The advantages for the use of the plates 6 will be clear, and the service which they perform with reference to preventing leakage by percolation of water into the blocks below into the opposite side of the air-space forms an essential feature of this invention. The water may possibly get to the inside of the wall in small quantities; but the provision of these plates obviates all likelihood of the same passing to the inside of the wall.

Having thus described the invention, what is claimed as new is—

1. A building-block embodying lateral or angular end extensions, and corrugated or roughened plates applied to sides of said extensions.

2. A building-block embodying lateral or angular end extensions, and roughened or corrugated plates embedded in side portions of the extensions aforesaid.

3. A building-block embodying lateral or angular end extensions, roughened or corrugated plates embedded in side portions of the extensions aforesaid, and projections at the corner portions of the plates penetrating the body of the extensions.

4. A building-block having an exposed corrugated or roughened plate embedded in a side thereof.

5. A building-wall composed of a plurality of superposed building-blocks, each of said building-blocks embodying angular end extensions, expcsed corrugated or roughened plates applied to sides of said end extensions and embedded in the material of the block, the plates of superposed blocks being adapted to overlap, and a binder between the blocks.

6. In building-wall construction, the combination of angularly-extending walls composed of superposed layers of blocks, each of said walls having major blocks each having end extensions, and minor blocks of one wall having cavities near one end to receive the end portions of the major blocks of the adjacent wall.

7. In building-wall construction, the combination of angularly-extending walls composed of superposed layers of blocks, each of said walls having major blocks each having end extensions, and minor blocks of one wall having cavities near one end and adjacent the outer sides thereof to receive the adjacent extremity of the major blocks of the other wall, whereby said minor blocks are bonded into the wall by the major blocks.

8. A building-wall composed of adjacent blocks, the blocks being provided with kerfs or grooves in adjacent ends thereof, and a joist having an extremity received between the adjacent ends of the blocks and interlocking in the grooved portions aforesaid.

9. A building-wall composed of adjacent blocks, there being vertical recesses at adjacent ends of said blocks, the blocks being provided with kerfs or grooves vertically of the recesses aforesaid, and a joist having an extremity received between the adjacent recessed portions of the blocks and provided with vertical tongues or ribs received in the kerfs or grooves aforesaid.

In testimony whereof I affix my signature in presence of two witnesses.

OLOF JOHNSON. [L. S.]

Witnesses:
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R. E. RIDLEY.