

W. L. CUSICK,
BUILDING BLOCKS.
APPLICATION FILED MAR. 6, 1918.

1,334,599.

Patented Mar. 23, 1920.
4 SHEETS—SHEET 1.

FIG. 1.

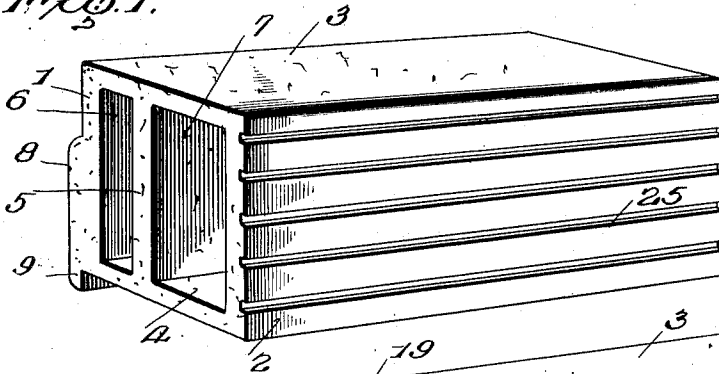


FIG. 2.

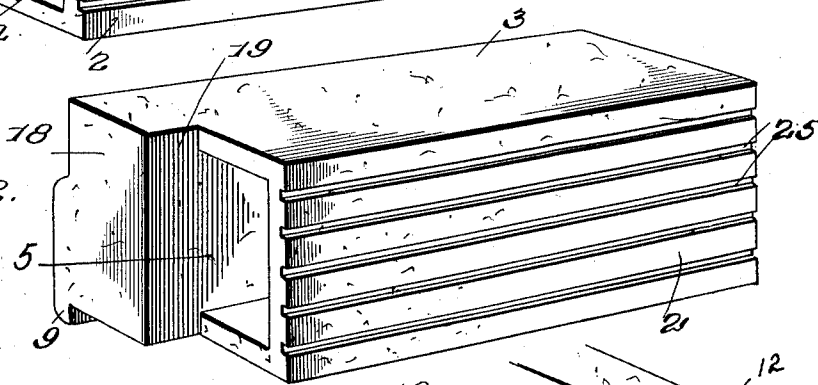
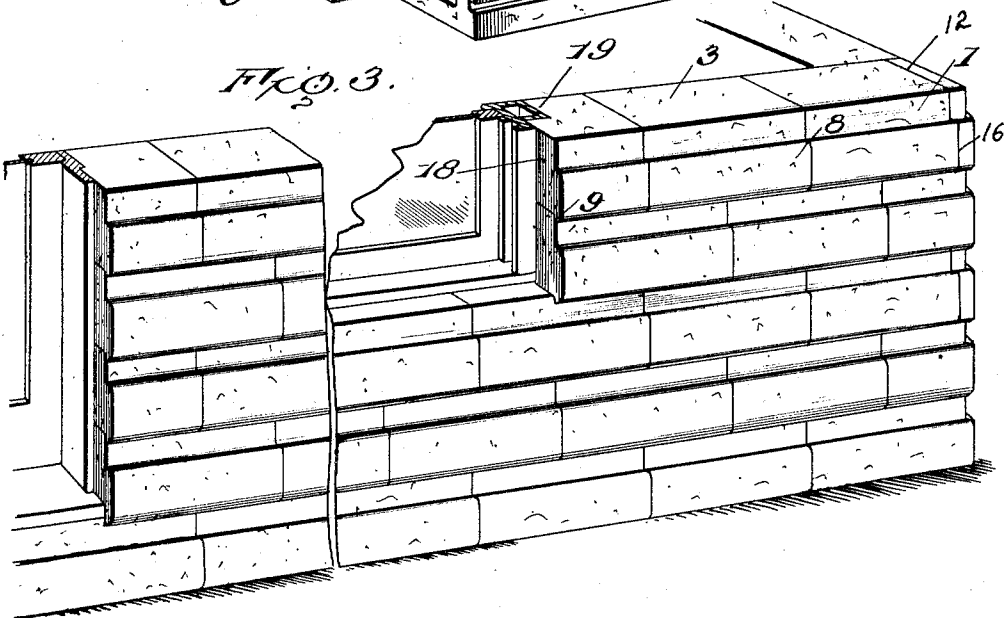


FIG. 3.



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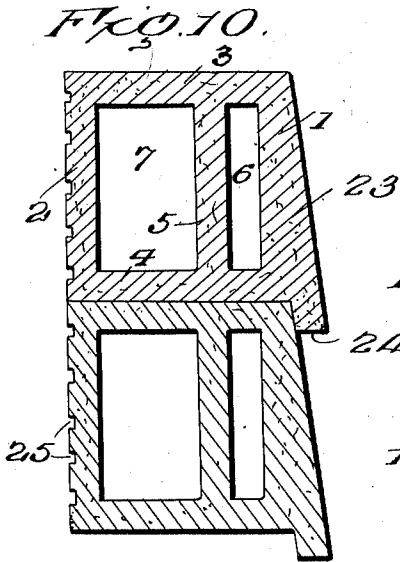


FIG. 8.

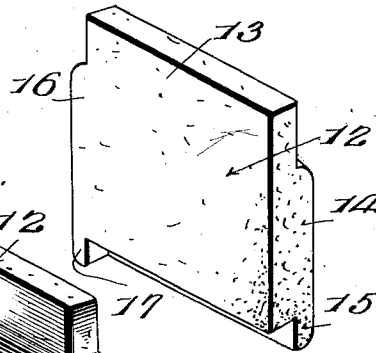


FIG. 9.

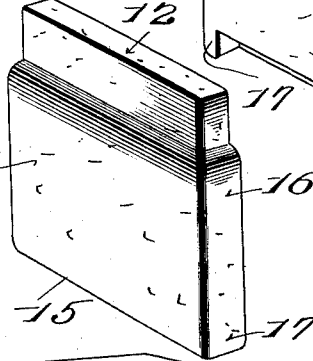


FIG. 11.

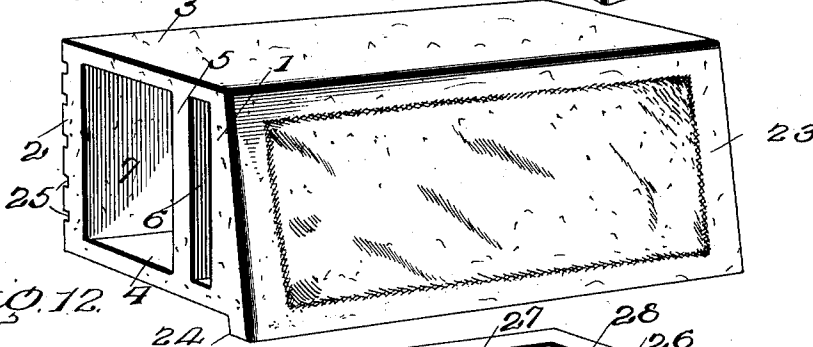
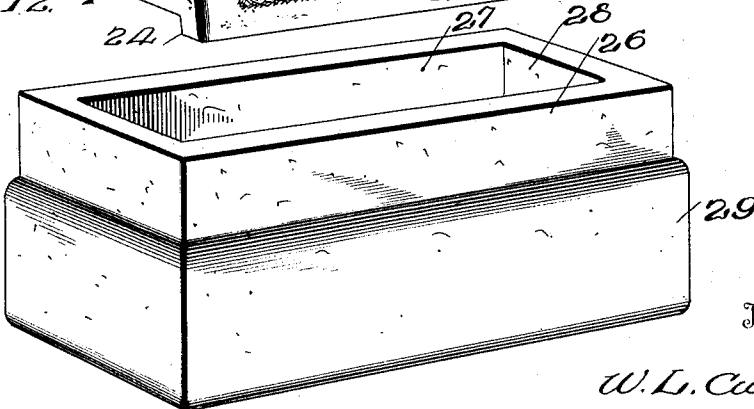


FIG. 12.



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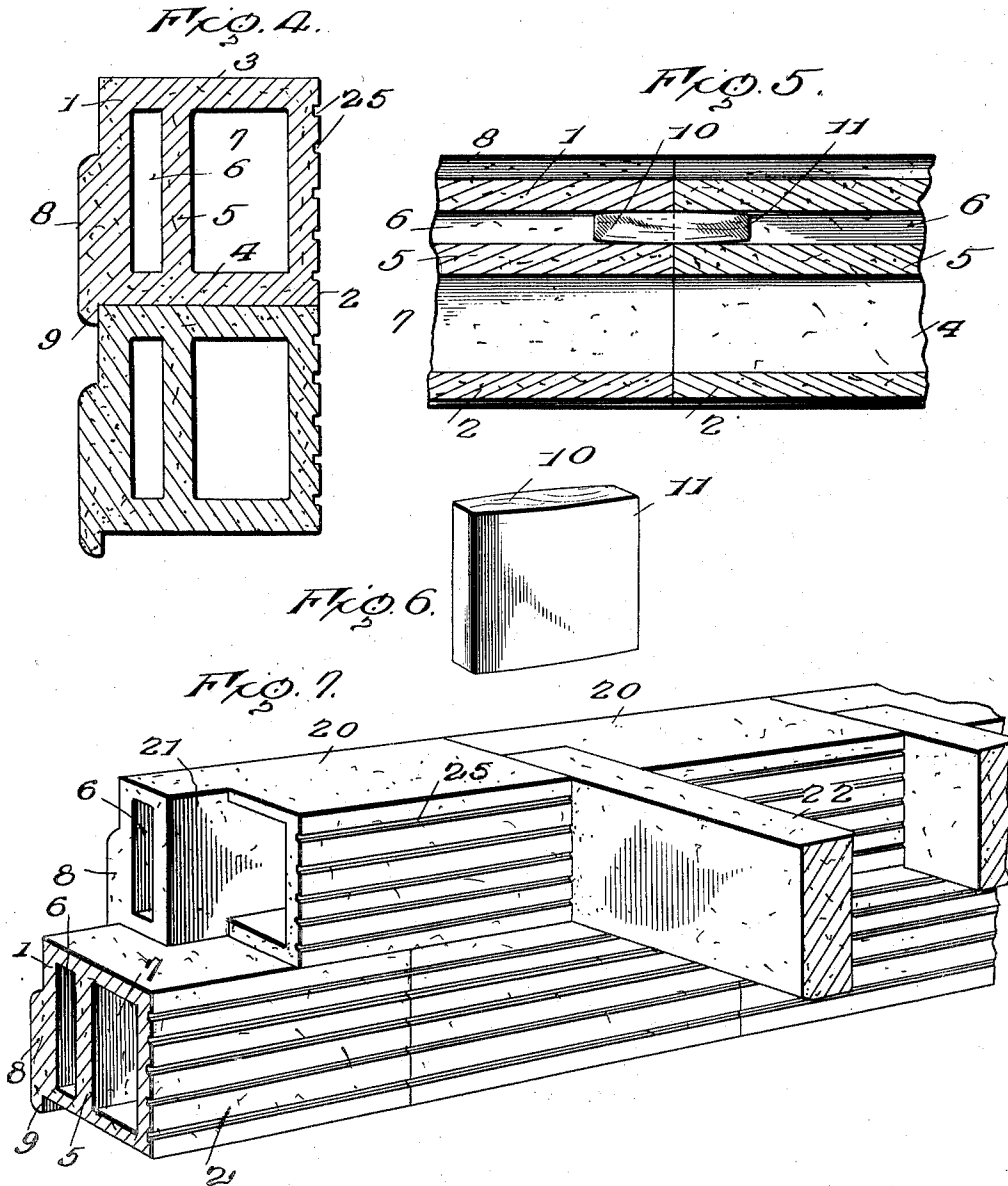
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4 SHEETS—SHEET 4.

Fig. 13.

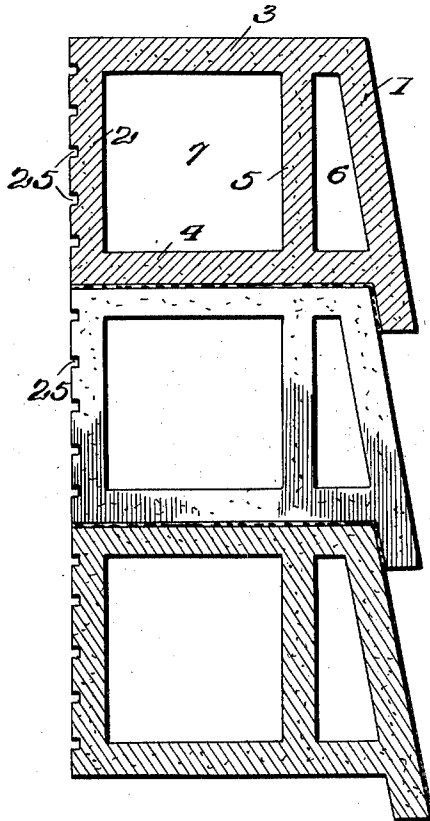


Fig. 14.

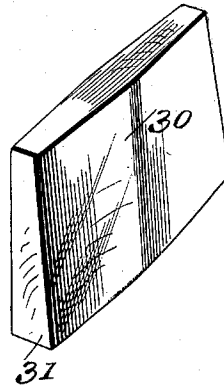
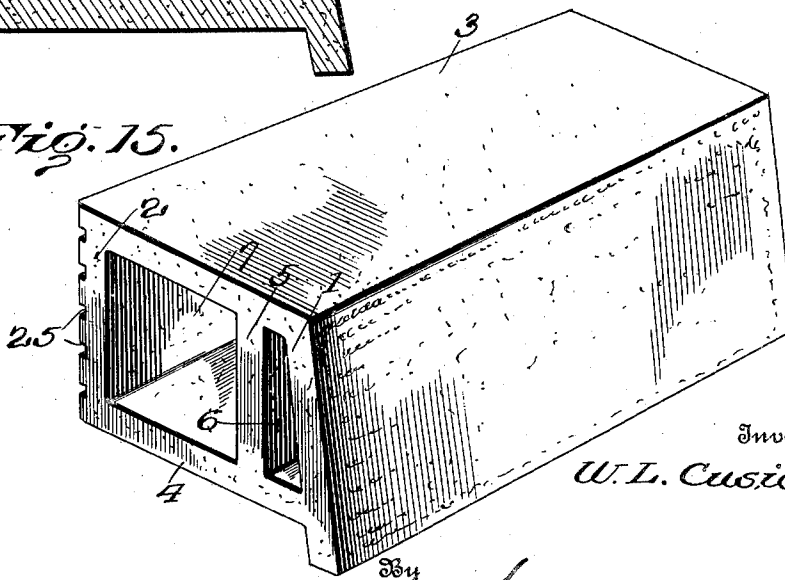


Fig. 15.



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BUILDING-BLOCKS.

1,334,599.

Specification of Letters Patent.

Patented Mar. 23, 1920.

Application filed March 6, 1918. Serial No. 220,774.

To all whom it may concern:

Be it known that I, WILFRED L. CUSICK, a citizen of the United States, residing at Follansbee, in the county of Brooke and State of West Virginia, have invented certain new and useful Improvements in Building-Blocks, of which the following is a specification.

This invention relates to building wall construction and more particularly to an improvement in the blocks which are employed in constructing such a wall.

It is one aim of the present invention to provide, in wall construction, novel means for connecting the abutting or meeting ends of the blocks by dowels and at the same time permitting of the employment of blocks so constructed as to afford a dead air space in the wall thus producing a wall of a heat insulating character, rendering the building cool in summer and warm in winter.

The invention also aims to provide, in wall construction, blocks of such form that the facing portion of one block will have a bead overlapping the upper edge of the face of the block below it, thus both giving an ornamental effect and serving to effectually close any cracks or spaces which might otherwise occur between the meeting lower and upper faces of the superimposed blocks, and in this manner rendering the wall substantially water and frost proof.

In the accompanying drawings:

Figure 1 is a perspective view of one of the blocks embodying the present invention, the block illustrated in the said figure being one of the blocks designed for use in ordinary construction of the wall;

Fig. 2 is a similar view illustrating the construction of one of the blocks designed to be employed where a window or door opening is to be provided in the wall;

Fig. 3 is a perspective view of a portion of a building wall illustrating the general arrangement of the blocks in constructing a wall, certain of the corner blocks of the wall being shown provided with right hand facing blocks;

Fig. 4 is a vertical front to rear sectional view through two of the blocks disposed one upon the other;

Fig. 5 is a horizontal sectional view through two of the blocks arranged end to end and illustrating the means provided for connecting the said blocks in such assembled relation;

Fig. 6 is a perspective view of the connecting element or dowel shown in Fig. 5;

Fig. 7 is a perspective view illustrating a portion of a building wall and showing particularly the construction and arrangement of the blocks provided for the anchorage and support of studding or joist beams;

Fig. 8 is a perspective view illustrating a facing designed to be employed in converting one of the blocks shown in Fig. 1 of the drawings into a corner block;

Fig. 9 is a similar view of the said facing block but looking at the reverse side thereof;

Fig. 10 is a view similar to Fig. 4 illustrating a modified form of block;

Fig. 11 is a perspective view of one of the blocks shown in Fig. 10;

Fig. 12 is a perspective view of a further modified form of block;

Fig. 13 is a view similar to Fig. 10 illustrating several blocks of a modified form assembled;

Fig. 14 is a perspective view of the dowel block employed in connection with the blocks shown in Fig. 13;

Fig. 15 is a perspective view of one of the blocks shown in Fig. 13.

The block which will be employed in greatest numbers in constructing a building wall, or in other words, the block which will be employed where there are no window or door openings, corners, studding or joists, and the like is illustrated most clearly in Fig. 1 of the drawings and this block like the other blocks to be presently specifically described, may be formed from cement, clay, or any other material ordinarily employed in producing building blocks, and may be finished or surfaced in any desired manner. The said block is substantially rectangular in form and of oblong shape and hollow and includes a front wall 1, a rear or inner wall 2, top and bottom walls 3 and 4 respectively, and a partition wall 5, the block being open at its ends. The partition wall 5 is located in a vertical plane parallel to the planes occupied by the front and rear walls 1 and 2 of the block, and the said partition wall is located nearer the front wall 1 than the rear wall 2 so that between the front wall 1 and the said partition wall 5, there is formed a socket 6 which extends the entire length of the block, is relatively narrow, and serves both as a dead air space and as a socket to receive connecting dowel blocks which will presently be described. By pro-

viding the partition wall 5, there is also formed within the block, between the said partition wall and the rear wall 2, a relatively wide dead air space 7 which extends the entire length of the block. Thus the block is rendered heat insulating. In the form of block shown in Fig. 1 of the drawings, the outer face of the front wall 1 is plane at its upper portion, but throughout the lower portion of the wall, the said wall is thickened so as to provide a facing 8 at the lower portion of the said forward or outer face of the wall 1, and this facing extends, as at 9, a short distance below the plane of the under side of the bottom wall 4 of the block so that when two of the blocks are disposed in superposed relation as shown in Fig. 4 of the drawings, the bead or projecting lower edge portion 9 of the facing 8 of the upper block will overlap the upper portion of the forward or outer face of the front wall 1 of the lower block, thus not only concealing the line of union between the contacting lower and upper faces of the upper and lower blocks, but also closing any cracks or small openings which might occur between these faces and into which water or frost could otherwise enter to the detriment of the said blocks and, consequently, the wall as a whole. Also by the provision of the bead 9, the blocks may be more quickly assembled by disposing them one upon another as they will be known to be in proper registration and alinement when the inner face of the bead 9 of any block abuts against the forward face of the front wall of the block below it. In building up the wall, the blocks will, of course, be arranged not only in superposed tiers, but also end to end in the several tiers which go to make up the wall, and in order that the blocks may be connected end to end, small dowel blocks such as clearly shown in Fig. 6 of the drawings, are provided. These blocks which are indicated by the numeral 10, are quadrilateral or substantially rectangular in cross section, are solid, and extend the full height of the socket 6. However, the blocks are slightly wedge shaped at their opposite ends as indicated by the numeral 11, or in other words, are tapered in opposite directions from their mid portions to their ends so that when the said dowel blocks are disposed between the meeting ends of two of the blocks shown in Fig. 1 with the said wedge-shaped ends of the dowel blocks engaged in the ends of the sockets 6, the dowel blocks will be sufficiently securely wedged in place, when the building blocks are shoved together end to end, to firmly hold the said blocks alined in connected relation, as clearly shown in Fig. 5 of the drawings.

In connecting the blocks in each tier by solid dowels tapering at their ends as de-

scribed above, after one block has been laid with its bead overhanging the face of blocks in the tier below, cement will be applied to the top of said tier and the end of the block laid, a dowel inserted partway into the socket of said block, and the next block brought into place and its socket passed over the protruding end of the dowel, at which time there is sufficient looseness to permit this block to be properly applied to and pressed into the cement upon the tier already laid; then when it is shoved up into place so as to project both ends of the dowel into locking position, the bead slides along the corner of the tier below and no injury is done to any block. On the contrary, as the ends of the blocks come together the close fit of the dowel prevents a twisting movement which might injure the bead or result in the laying of the new block out of a true horizontal position.

Whenever it is desired to convert one of the blocks shown in Fig. 1 into a corner block, a facing block, such as shown in Figs. 8 and 9 of the drawings, may be employed. These facing blocks are, of course, made in rights and lefts and each block comprises a body 12 which is of general rectangular marginal outline and has a flat inner face 13 designed to be disposed against the right or left hand end of the block shown in Fig. 1, as the case may be, the said face 13 being of the same area and marginal contour as the area defined by the end of the block shown in Fig. 1. A left hand facing block is shown in Figs. 8 and 9 of the drawings and a right hand facing block is shown on certain of the corner blocks of the wall illustrated in Fig. 3. The outer face of the facing block 12, or in other words, that opposite the face 13, is molded to provide a facing 14 corresponding to the facing 8 and terminating at its lower edge in a bead 15 corresponding to the bead 9. In like manner one end edge, or in other words, the edge of the block 12 which is to constitute the outer or forward edge when the block is in place, is formed with a relatively narrow facing 16 terminating at its lower end in a relatively narrow or short bead 17 corresponding to the bead 9 and forming a continuation of the bead 15, the facing 16 in like manner forming a continuation of the facing 14 as will be evident by reference to Fig. 9 of the drawings. In making use of the facing blocks above described and illustrated in Figs. 8 and 9 of the drawings, these blocks are disposed in position either against the right or left hand end of one of the blocks shown in Fig. 1, as the case may be, and the said facing block is then secured to the block shown in Fig. 1 by plaster, cement, or in any other desired manner. The facing block when in place will, of course, completely cover and close the end of the block 1 to which it is applied and the

facings of the facing block will form a continuation of the facing upon the said block shown in Fig. 1.

Where it is desired to provide, in the wall, a window or door opening, blocks of the general construction shown in Fig. 2 are employed and each of these blocks is substantially identical in its construction with the block shown in Fig. 1 except that at one end, the socket 6 is closed as indicated by the numeral 18; and the top, bottom and rear walls of the block are cut off at the same end of the block in rear of the rear face of the partition 5 to provide a recess 19. These blocks are made in rights and lefts, those in Fig. 3 being at the right side of the window opening and that in Fig. 2 being intended for use at the left side of a similar opening. By reference now to Fig. 3 of the drawings it will be understood how the window frame or door frame will be received within the recesses 19 in some of the superposed blocks of this type, these blocks being, of course, arranged, in connection with the blocks shown in Fig. 1, so as to provide a window or door opening of the proper dimensions.

Where it is desired to provide for the anchorage and support of studding or joists, blocks such as shown in Fig. 6 of the drawings and indicated in general by the numeral 20, are employed, these blocks being identical in construction with the block shown in Fig. 2 except that the end of the socket 6 is left open, the blocks being arranged as clearly shown in Fig. 7, so that the recesses which are indicated by the numeral 21 and which correspond to the recess 19 in the block shown in Fig. 2, may receive the ends of the studding or joist beams indicated by the numeral 22.

In Figs. 10 and 11 of the drawings there is as stated a slightly modified form of block. So far as general structure is concerned this block is identical with the block shown in Fig. 1 of the drawings, except that as a substitute for the facing 8, each of the blocks shown in Figs. 10 and 11 is provided with a facing 23 formed by gradually increasing the thickness of the forward wall 1 of the block from its upper to its lower end so that the facing thus provided will have a downwardly and forwardly inclined outer face, the facing being continued below the under side of the bottom wall of the block to provide a bead 24 designed to overlap the upper portion of the outer face of a lower block in the manner clearly shown in Fig. 10.

In order that plaster applied to the inner face of a wall made up of the blocks embodying the present invention may be caused to adhere to the blocks, each illustrated form of the block is formed in the exterior face of its inner or rear wall 2 with a series of longitudinally extending grooves indicated by the numeral 25, or these faces of the

blocks may be roughened or grooved in any other manner which will accomplish the desired result.

The block illustrated in Fig. 12 of the drawings is designed for employment as a corner block and is to be molded in rights and lefts and the said block comprises a front wall 26, a rear wall 27, and end walls 28, the block being open at its top and bottom and having its front wall 26 and one of its end walls 28 exteriorly thickened as at 29 to correspond to the portions 8 of the front walls of the blocks previously described. Of course, by the use of this form of block at the corners between the walls of a building, the employment of the facing end pieces shown in Figs. 8 and 9 of the drawings is obviated.

The form of block shown in Figs. 13, 14 and 15 resembles the block shown in Figs. 10 and 11. In this form of block, however, the front wall 1 is of uniform thickness throughout so that the dowel receiving recesses 6 are wider at their lower ends than at their upper ends, or in other words have their front walls inclined upwardly with relation to the planes of the rear walls. Fig. 14 illustrates the dowel which is employed in uniting the blocks shown in Figs. 13 and 15 and this dowel is indicated in general by the numeral 30 and corresponds to the dowel shown in Fig. 6 of the drawings, except that the said dowel, while yet quadrilateral in cross section, is tapered from its lower edge to its upper edge, as indicated by the numeral 31, as well as being tapered in the direction of each end from its intermediate portion, the dowel being thus shaped so as to fit within the recesses or seats 6.

In the laying of blocks formed as shown in Figs. 13, 14 and 15, the process already described is followed and the same results ensue. Thus, whatever the exact configuration of the dowel so long as it is quadrilateral in cross section, its close fit in the sockets prevents a relative twisting of the blocks in a tier and alines them as they are laid, with fully as much effect as would be produced if these blocks were connected by a plurality of dowels.

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

1. In a wall, hollow blocks disposed in superposed tiers, each block having a bead overlapping the face of the block in the next tier, an upright longitudinal partition producing an air space along the rear of the block and a socket just in rear of the facing wall, and a solid dowel engaging blocks which abut end to end, the dowel being quadrilateral in cross section, of a size at its midlength to fit said sockets, and tapering in thickness from its midlength to both ends.

2. A wall composed of superposed tiers of building blocks, each block being hollow and

of rectangular cross section except that its front wall inclines outward and downward, a bead along the lower edge of this wall overhanging the face of the tier below, a
5 vertical partition separating a rectangular air space along the rear of the block from a longitudinal socket between said front wall and partition, the socket being quadri-

lateral in cross section but tapering upward, and dowels connecting adjacent blocks in a tier, each dowel being solid and of a size and shape to fit alined sockets but tapering at both ends. 10

In testimony whereof I affix my signature.

WILFRED L. CUSICK. [L. s.]