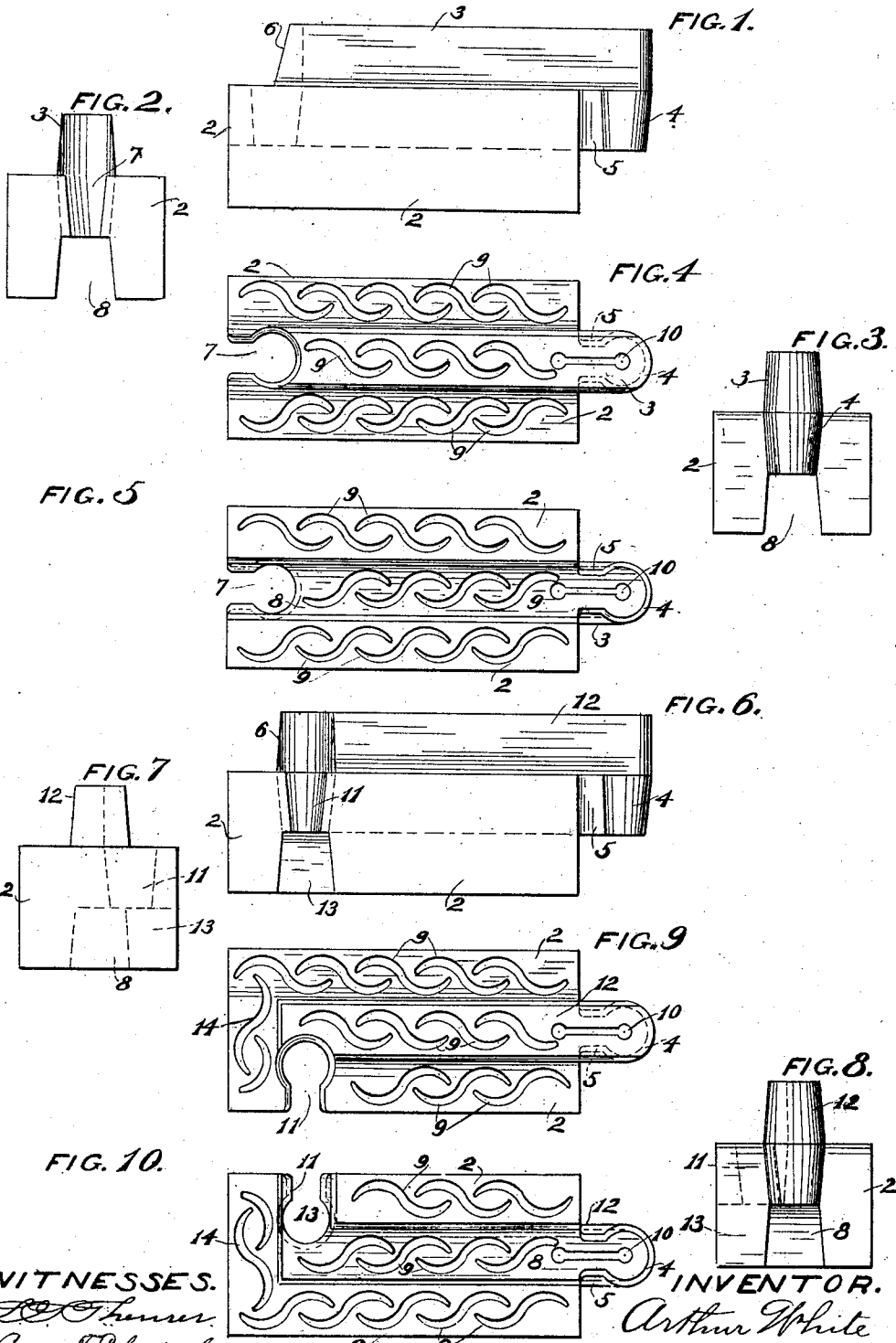


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BUILDING BLOCK.  
APPLICATION FILED SEPT. 18, 1907.

Patented Apr. 20, 1909.  
2 SHEETS—SHEET 1.



WITNESSES.

*L. E. Schurmer*  
*Anna F. Schmidtbauer*

INVENTOR.

*Arthur White*

*By Benedict, Morrell & Caldwell*  
ATTORNEYS.

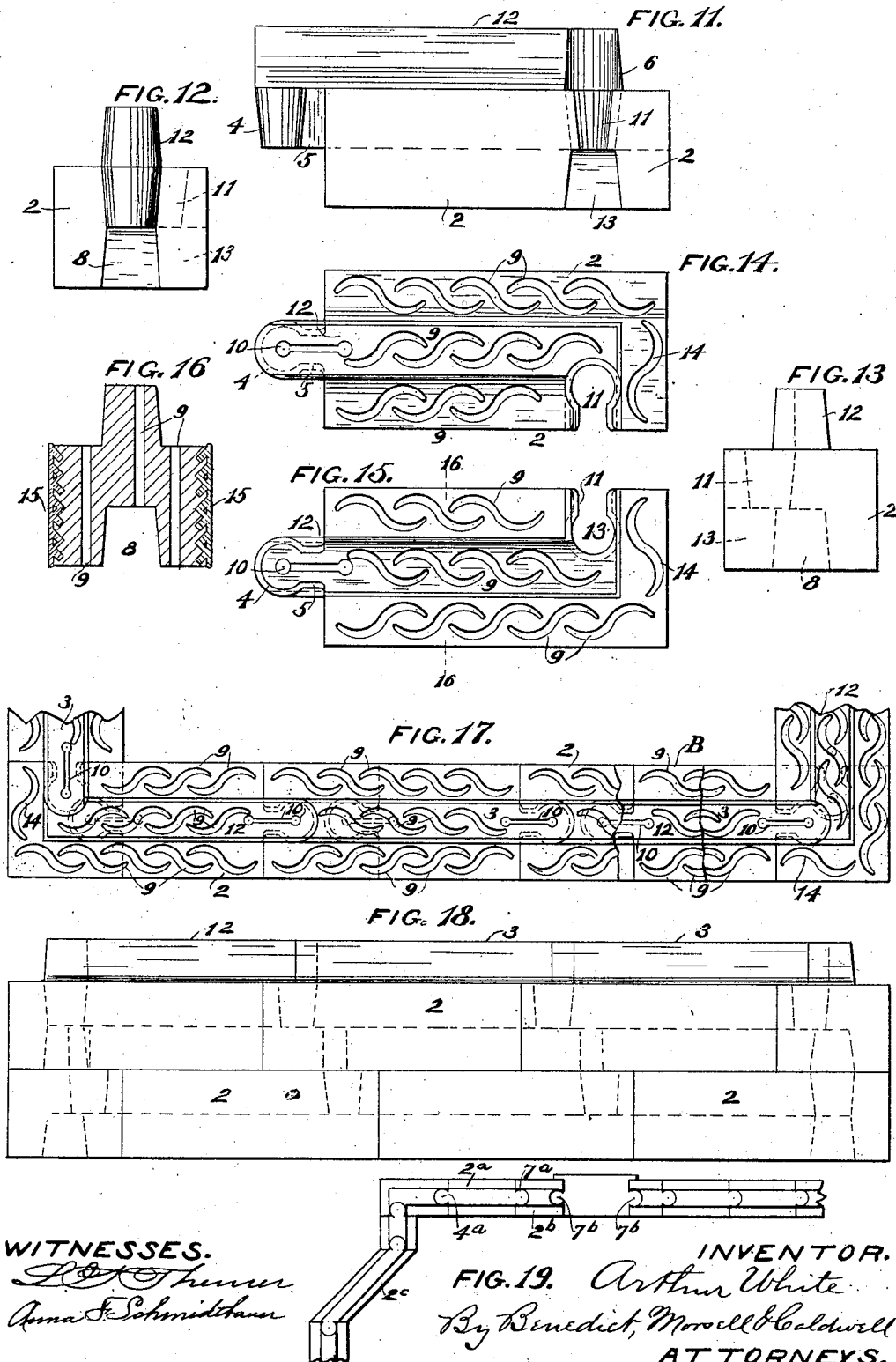
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WITNESSES.

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FIG. 19. *Arthur White*  
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# UNITED STATES PATENT OFFICE.

ARTHUR WHITE, OF SHEBOYGAN FALLS, WISCONSIN.

## BUILDING-BLOCK.

No. 919,272.

Specification of Letters Patent.

Patented April 20, 1909.

Application filed September 18, 1907. Serial No. 393,445.

*To all whom it may concern:*

Be it known that I, ARTHUR WHITE, residing in Sheboygan Falls, in the county of Sheboygan and State of Wisconsin, have invented new and useful Improvements in Building-Blocks, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My improved building block, which is intended to be suitable to be employed in the erection of building, or any other structure where blocks of this character may be employed, is one that may be made of any kind of plastic material, especially and preferably of cement, that is adapted to be put into the desired form by molding while in a plastic condition, and which thereafter sets and hardens or material that may be pressed into shape and condition forming a rigid, strong and enduring block for building up the walls of a building, or other structure where such a block would be desirable.

The novel and valuable features of the improved building block are chiefly in the form and parts of the block, whereby means are provided for the connecting and binding together of the blocks when placed in a building or other structure, these means being adapted to facilitate the proper placing and laying of each block in a wall being builded of these blocks, and, in connection therewith the provisions for the ventilation of the blocks and the walls formed thereof, whereby particularly the blocks are adapted to interrupt or prevent the transmission of heat, cold or moisture through them from one side thereof to the other, when laid up in walls. Other valuable features of the blocks are incidental to these principal features.

The invention consists of the building block, and its combinations, and the parts thereof and the combinations thereof, as hereinafter described and claimed or the equivalents thereof.

In the drawings, Figure 1 is a side elevation of a building block embodying my improvements; Fig. 2 is an end view at the left of Fig. 1; Fig. 3 is an end view of the block at the right of Fig. 1; Fig. 4 is a top plan of the block of Fig. 1; Fig. 5 is a view of the under side of the same block; Fig. 6 is an elevation of the side of a block adapted for use at a corner of a building, where the direction of the wall changes in a right

angle; Fig. 7 is an end view of the left end of the block of Fig. 6; Fig. 8 is an end view of the right end of the block of Fig. 6; Fig. 9 is a top plan of the block of Fig. 6; Fig. 10 is an under side view of the block of Fig. 6; Fig. 11 is a corner block formed to permit of the change of direction of a wall at a corner; the corner being the opposite or complementary one to that in which the block of Fig. 6 is adapted to be used; Fig. 12 is an end view at the left of the block of Fig. 11; Fig. 13 is an end view at the right of the block of Fig. 11; Fig. 14 is a top plan of the block of Fig. 11; Fig. 15 is an under side view of the block of Fig. 11; Fig. 16 is a transverse section on line 16-16 of Fig. 15 of my improved building block, in which is shown as an additional feature, and in a somewhat exaggerated form, a roughened surface on the outside and on the inside walls of the block, adapted for receiving and holding plaster thereon; Fig. 17 is a plan of a fragment of a wall of the character of that shown in Fig. 18, the wall being broken away medially at B disclosing the top of the next lower layer of blocks, thereby exhibiting the arrangement and relations of air spaces in a lower layer or tier of blocks to the air spaces in the blocks of the superimposed layer or tier of blocks in a wall; Fig. 18 is a diagram of an elevation, including two layers or tiers of blocks, of a wall constructed of my improved building blocks; and Fig. 19 illustrates blocks somewhat modified in form.

The body 2 of my improved building block may be of any desired form, but like building blocks in general is preferably of elongated rectangular form. On and centrally along the top surface of the block there is a rib 3, which at one end of the block projects beyond the body of the block, and projecting substantially at right angles from the projecting end of this rib and opposite the end of the body of the block there is a truncated cone-shaped pin or dowel 4, which is located at a little distance from the body of the block and is connected thereto directly by a neck or web 5, laterally of less thickness than the diameter of the dowel, but advisably extending from the rib 3 as far as the entire length of the dowel. Any other form of this dowel than a truncated cone might serve the purpose but it must be greater in transverse diameter than the thickness laterally of the web 5. The

rib 3 is advisably slightly beveled upwardly on its sides, away from the body of the block, and at its other end it is cut off on a bevel at 6, at a little distance from the end of the body of the block. This end of the rib is also hollowed out vertically to receive therein a rounded projecting end of the rib of the abutting block when put together in a wall, and which in putting the blocks together in a wall becomes complementary to this hollowed out portion, as shown at the right hand end of the rib in Figs. 1 and 3. The body of the block, at this non-doweled end, is provided with a socket 7, of a form and size adapted to receive therein the dowel 4 and the web 5 of an abutting block, whereby two blocks brought together end to end and having the dowel 4 and web 5 inserted in the socket 7, by movement downwardly of the dowel and web, are locked to each other against displacement laterally or endwise. In and centrally along the under surface of the body of the block there is a recess or channel 8 adapted to receive therein the rib or ribs 3 of a block or blocks of a lower layer or tier of blocks, as put together in the building of a wall. By this means the blocks when put into a wall are further and more completely bonded together against lateral and endwise displacement. And because of these complementary ribs and recesses or channels, and dowels and sockets the blocks are adapted to be readily placed in proper positions with reference to each other in a wall or structure being builded of these blocks in regular courses one upon another in the common manner of building, their capability of being properly placed in the wall or structure being such that non-skilled workmen can easily and surely place them properly in the walls, a slight bevel or taper of the ribs, channels, dowels and sockets, which is advisably given them, aiding in bringing the blocks, when being laid, into proper alinement and true positions, both laterally and longitudinally, with reference to the related blocks to which each block is bonded.

For preventing transmission of moisture, or heat or cold through the walls of a building constructed of my improved blocks, I provide apertures through the blocks from top to bottom to form air spaces or chambers therein, and these apertures are advisably in a thin and rather wide form, in a plurality of series extending in the direction of the length of the block, and in the body of the block are advisably in a doubly and reversely curved form 9, so disposed in the block that the several apertures of each series overlap each other, forming in each series practically two air spaces that would be intersected by a transverse plane through the block. In the drawings three series longitudinally of the block of such aper-

tures are shown, the central series of which apertures are through the rib 3 opening on the top of the rib and into the channel 8, while the adjacent two side series of the apertures are vertically through the body of the block, opening at the top and bottom thereof respectively. It will be observed that because of the form and arrangement of these apertures no transverse plane of the block can be made, either at right angles to the sides of the block, or at an oblique angle thereto, that would not intercept one or more of these apertures through the block. This arrangement of apertures in and through the block is deemed valuable, against the transmission of heat or cold through the block, since rays of heat are known to travel in straight lines, and as air spaces intercept and largely interrupt the passage of heat through ordinarily heat-transmitting solid bodies, the construction which includes air spaces that must in any event thus interrupt the transmission of heat, are deemed especially desirable and important. I also advisably provide apertures 10, in a thin wide form in and through the projecting end of the rib 3, the dowel 4 and the web 5, which aperture also extends a little distance into the body of the block. This aperture provides an interrupting air space transversely of two blocks at and near their abutting ends, which might otherwise be without any intercepting air space transversely of a wall, for a very little distance adjacent to the ends of two abutting blocks.

The forms of block shown in Figs. 6 to 15 inclusive are adapted for building up the corners of the walls of a building, and for this purpose the sockets 11, instead of being in the end of the block centrally as in Figs. 1 to 5 inclusive, are in the side of the block at the non-doweled end thereof, being so disposed that when the abutting block is placed at a right angle to this side socket, and is connected therewith, a right angle is formed in the wall or structure thus built up, in substantially the same manner that a straight wall is built up by the use of the block of Figs. 1 to 5 inclusive. Also the channel 13 in the under side of the block is turned to the side of the block, instead of running to the end of the block as in the other form thereof, and the rib 12 is hollowed out or recessed at the side instead of at the end, to adapt it for this corner use of the block. And in these corner blocks, as the planes of the series of apertures are interrupted by the sockets 11, transversely disposed doubly and recurved apertures 14 are employed to provide the necessary air spaces in the otherwise solid ends of these blocks.

In Fig. 16 a transverse section of a block, as for instance on line 16—16 of Fig. 15, is shown, and on this block of Fig. 16 there is shown a roughened or channeled surface 15

adapted to receive and hold plaster, whereby the surface of this wall can be finished with adhering plaster. It is the purpose of these blocks that they can be used either as a wall  
5 without any other finish on them, or that the surfaces being roughened in any suitable way, which is no part of this invention, the wall can be finished by applying plaster thereto either on the outside or on the inside  
10 or both as desired.

In Fig. 19, forms of blocks are illustrated diagrammatically, in which a dowel 4<sup>a</sup> is shown that is so close to the body 2<sup>a</sup> of the block that the neck between the dowel and the body is as short as possible, in fact, the neck is reduced to merely a section of the dowel itself at one side of the longitudinal axis of the dowel, by which section or neck the dowel is attached directly to the body.  
15 Also the complementary socket 7<sup>a</sup> in the complementary block 2<sup>b</sup> is formed to receive snugly therein the dowel 4<sup>a</sup>. And it is also shown that two dowels may be put on one block 2<sup>a</sup>, one dowel at each end, and that  
20 two sockets may be in one block 2<sup>b</sup>, in which form the blocks are complementary to each other. This arrangement of two dowels on one block, and two sockets on another block may be used with any form of dowel within  
25 the scope of my invention. And the body of blocks may be of other forms than rectangular, as for example, a diamond, or parallelogram form as shown at 2<sup>c</sup>, or other less regular form, the general form or con-  
30 four of the body of the block not being a part of this invention, nor is the invention to be limited thereby. If desired the blocks having sockets in their ends can be so laid  
35 at the sides of window openings, that the sockets can be utilized as channels for sash weights and their cords, as shown at 7<sup>b</sup>.  
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What I claim as my invention is:

1. A building block, comprising a body part having a rib-receiving channel along in the side thereof, a rib on the opposite side of the body projecting longitudinally at one end beyond and outside of an extension of the body part, and a dowel projecting laterally from the inner side of the projecting  
45 portion of the rib opposite the end of the body part adapted to enter and fit in a complementary socket in the end of another block.  
50

2. A building block, comprising a body part, a rib on and along one side of and projecting endwise beyond one end of the body part, a dowel projecting substantially at a right angle from the inner side of the projecting end of the rib and opposite and  
60 at a little distance from the end of the body part, and a web of less thickness than the dowel connecting the dowel to the body part, the rib the dowel and the web being adapted to enter and fit in a complementary channel  
65 and socket therefor in an abutting block.

3. A building block, comprising a body part having a rib-receiving channel along in one side thereof and a dowel and web-receiving socket in and across one end thereof, a rib on and along the opposite side of the body the rib projecting endwise beyond the other end of the body, and a dowel projecting from the inner side of the projecting portion of the rib at a distance from and opposite the end of the body and extending  
70 substantially to the plane of the bottom wall of the rib-receiving channel on the other side of the body.  
75

4. In a building block, a body part provided with a dowel and web socket near one end thereof the socket opening into the body on a face thereof in the direction of the longitudinal axis of the dowel socket and entering a side of the body at an angle to the length of the block, a rib on and along one side of the body and projecting beyond the other end thereof, and a dowel and web projecting laterally from the inner side of the projecting portion of the rib adapted to enter the dowel and web socket of a duplicate block and forming therewith an angular extension of the wall builded thereof.  
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5. In a building block, a body part having wide apertures but thin transversely through the block, the apertures having their widths in the general direction of the length of the block and in that direction doubly and reversely curved and overlapping each other nearly one half their length, all the apertures of a longitudinal series of overlapping reversely curved apertures being within and across a longitudinal section of the block bounded laterally by two planes cutting the block longitudinally and vertically respectively along the outermost lateral walls of the several apertures of such longitudinal series, substantially as described.  
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6. A building block of compact solid material having a series of wide apertures thin transversely vertically of the block, the apertures being doubly and reversely curved laterally and arranged in the block to overlap each other, all the apertures of the series being located within and across a common longitudinal section of the block bounded laterally by two planes cutting the block longitudinally and vertically respectively along the outermost lateral walls of the several apertures of said series, substantially as described.  
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7. A building block of solid compact material having a series of wide apertures thin transversely vertically of the block such series of apertures being in the general direction of the length of the block and each aperture as to its width being doubly and reversely curved its extremities pointing in opposite directions, the adjacent apertures of each series overlapping each other so as to form substantially two planes of aper-  
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tures opposite each other in the direction of the length of the block, all the apertures of the series being located within and across a common longitudinal section of the block

5 bounded laterally by two planes cutting the block longitudinally and vertically respectively along the outermost lateral walls of the several apertures of said series, substantially as described.

10 8. As an article of manufacture, a building block having a body part, a longitudinal rib on one side and a corresponding rib-channel on the opposite side, a dowel projecting from a projecting end of said rib

15 and opposite to and at a distance from one end of the body part, a web of less thickness than the diameter of the dowel connecting the dowel to the body part and a dowel and web receiving socket in the other end of the

20 body part in form complementary of said

dowel and web, the block having also one or more series of transverse and doubly and reversely curved and overlapping apertures through it.

9. As an article of manufacture, a building block having a body, a rib projecting member on the side of the body extending endwise beyond and outside of an extension of the body, and a dowel and web projecting laterally from the projecting member and transversely of the end of the body, the projecting member the dowel and the web being provided with a vertically transverse and longitudinally elongated aperture.

25 30

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

35

ARTHUR WHITE.

Witnesses:

C. T. BENEDICT,

ANNA F. SCHMIDTBAUER.