Sept. 25, 1923. 1,468,892

J. VER MEHR

BUILDING BRICK, BLOCK, AND THE LIKE

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Fig.2.

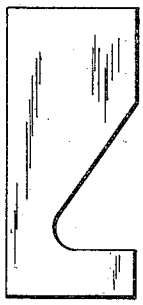

Fig.1.

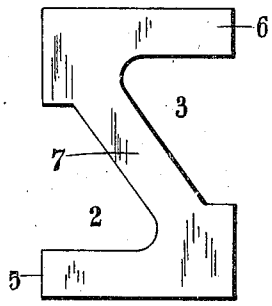

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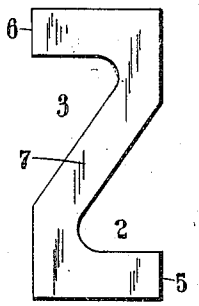
Fig.3.



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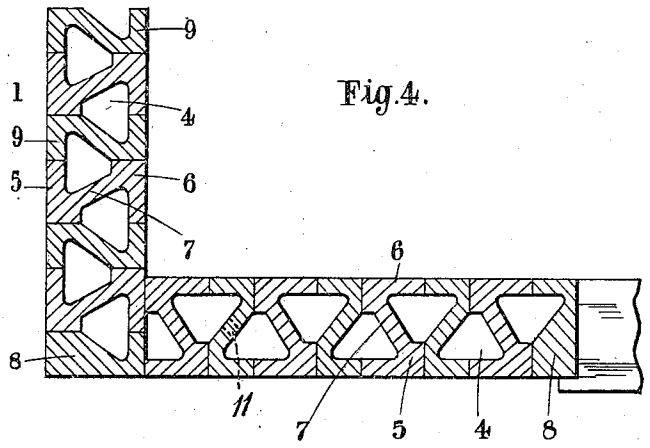

Fig.4.

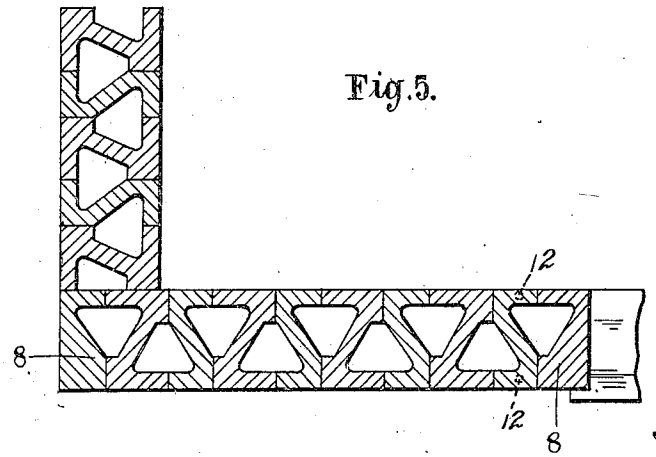

Fig.5.

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Fig. 7.

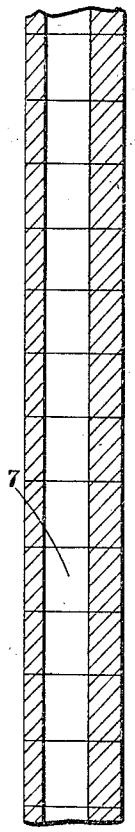


Fig. 6.

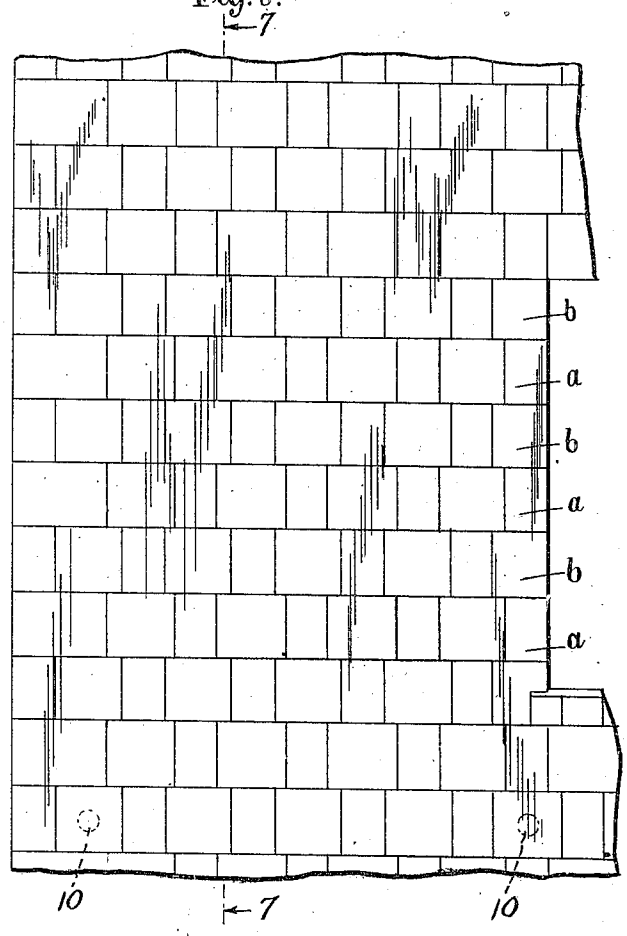
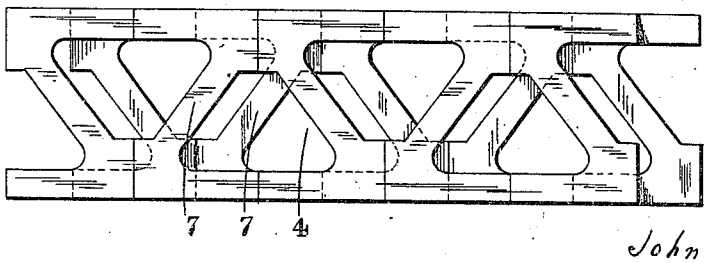


Fig. 8.



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Patented Sept. 25, 1923. 1,468,892

UNITED STATES PATENT OFFICE.

JOHN VER MEHR, OF LONDON, ENGLAND.

BUILDING BRICK, BLOCK, AND THE LIKE.

Application filed July 19, 1922. Serial No. 576,080.

To all whom it may concern:

Be it known that I, JOHN VER MEHR, a citizen of the United States of America, residing at 27 St. James Square, London, England, have invented new and useful Improvements Relating to Building Bricks, Blocks, and the like, of which the following is a specification.

This invention has reference to bricks, blocks, slabs, and the like for use in the erection of buildings or for walls or partitions or for retaining walls in sub-aqueous constructions and generally for all purposes where the employment of blocks, bricks, or slabs may usefully be resorted to.

The object of the invention is to provide an improved brick, block, slab, or the like which while capable of being manufactured expeditiously and cheaply will when employed in constructional work result in the production of a structure possessing great strength combined with lightness.

With this object in view and such others as may hereinafter appear or are incidental thereto my invention in its broadest aspect may be said to be embodied in a brick or the like which is so formed that when a number are assembled a horizontal section through the structure will disclose a plurality of spaces so disposed relatively to each other that there is formed a substantially lattice-girder like construction, while the "webs" or solid portions separating said spaces form internal beams or columns in the direction of the height of the structure thereby opposing great resistance to stresses both in the lateral and vertical directions.

In one embodiment of my invention the brick or block is of substantially Z or S shape in plan, and when a number are assembled with the recessed portions of one brick in juxtaposition with the recessed portions of adjacent bricks, a structure will be produced having the characteristics which I have hereinbefore referred to.

A building block or brick manufactured in accordance with the present invention admits of variation in the character of the structure to be built. The blocks may be of such dimensions and may be so arranged that a structure may be produced in which the aforesaid internal beams will be disposed either diagonally or vertically according to requirements and the character of the erection under construction.

In order that my invention may readily be understood and carried into effect I will now proceed to describe the same in detail for which purpose reference should be had to the accompanying drawings in which:—

Figure 1 is a plan view of a brick or block embodying my invention.

Figure 2 is a similar view of a corner brick or block.

Figure 3 is a plan view of a "stretcher" or "intermediate" brick or block hereinafter more particularly referred to.

Figure 4 is a plan of a portion of the first course of bricks as laid in the erection of a structure such as the wall of a house.

Figure 5 is a similar view of the second course.

Figure 6 represents an elevation of a wall constructed with bricks or blocks under this invention.

Figure 7 is a vertical section taken on the line 7—7 in Figure 6, and

Figure 8 is a plan view of a portion of a wall or the like illustrating a slightly different disposition of the blocks or bricks.

Referring now to Figure 1 it will be seen that my improved brick or block indicated as a whole by the reference numeral 1 is substantially Z shaped thus presenting two recesses 2 and 3 so that when a number are assembled with the recesses in juxtaposition substantially triangular spaces 4 (Fig. 4) will result.

In the laying of brickwork it is usual for the joints between the bricks of one course to be staggered relatively to the joints between the bricks of adjacent courses in order to secure adequate bonding, and that a similar effect may be produced with blocks or bricks under this invention I employ stretcher or intermediate blocks such as illustrated in Figure 3. These are substantially similar to the main blocks of Figure 1 except that they are of lesser width so that when assembled alternately with the main blocks as illustrated in Figure 4 for example, a construction will result which resembles an open-work girder since it can be said to consist of the two parallel members 5 and 6 joined by diagonal truss members 7. It will be obvious that the end of a wall or the corner of a building erected with bricks or blocks embodying this invention must be finished with bricks or blocks of slightly different configuration to those constituting the wall, and I therefore employ for this purpose bricks or blocks of the form inde-

pendently illustrated in Figure 2 and shown in position in the structure of Figures 4 and 5 where they are indicated by the reference numeral 8.

The bricks or blocks under this invention may be of any desired dimensions, but for the erection of dwelling houses or similar structures a convenient size for the main bricks or blocks represented in Figure 1 is nine inches by six inches wide by six inches thick, while the stretcher or intermediate blocks shown in Figure 3 and indicated as a whole by the reference numeral 9 may be nine inches by four inches wide by six inches thick.

Assuming Figure 4 to represent the first third and subsequent odd numbered courses of a wall constructed with my improved bricks or blocks and Figure 5 the second fourth and subsequent even numbered courses, it will be seen that the diagonal truss members 7 of each course lie directly above the truss members of the course below so that there are a plurality of vertical columns with intervening triangular spaces 4 through the whole structure.

It will be understood that the hereinbefore mentioned dimensions of the blocks or bricks under this invention are exemplary only as the type size and nature of the intended structure will determine the size of the blocks employed in its erection. In the case of dwelling houses or similar buildings where it is necessary that provision should be made for the placing of windows, doors and the like and where the work must be carried out to more or less exact measurements, I prefer to employ three standard width bricks or blocks in addition to the corner pieces. Convenient widths are six inches five inches and four inches. By finishing each course where it ends at an aperture in the wall for a window or door with a four or a five inch block alignment of the courses will be effected. This will be seen in Figure 6 where *a* represents a four inch block and *b* a five inch block.

It may well be that in certain types of structure particularly such as designed to resist lateral stresses it would be advantageous to so arrange the blocks that the diagonal truss members 7 of any one course cross the triangular spaces 4 in the course below and above instead of being in alignment as previously described. Such an arrangement is illustrated in Figure 8 in which all the blocks are shown of the same size so that except for the ends of each course which are finished with an appropriately sized block it is unnecessary to employ blocks of varying width.

Building blocks or bricks under this invention may be made from any suitable material or mixture of materials and may be formed with apertures 10 for the purpose of securing circulation of air or the ingress or egress of fluids throughout the structure. These apertures 10 may be provided where desired. For example they may be located at or near the bottom of the structure as indicated in Fig. 6 the air entering through one of said apertures and passing upwards through the triangular space formed by the blocks then through ports such as 11, shown in dotted lines in Fig. 4, into the adjacent triangular space and downwards therein and thereafter in a similar manner upwards and downwards through the various triangular spaces until it finally emerges through the other aperture 10. If desired the blocks may be provided with apertures such as 12, shown in dotted lines in Fig. 5 for the reception of reinforcing bars, rods or wires.

Apart from the economy in cost and in labor for erection and the advantages accruing from strength and lightness a feature of considerable importance is that a wall—of a dwelling house for example—constructed of blocks or bricks under this invention will effectively resist the passage of moisture as owing to the lattice-like formation of the wall it follows that the spaces are staggered relatively to each other, and therefore damp or moisture can find no direct path from one surface of the wall to the other but will encounter the aforesaid spaces and so be dissipated.

What I claim is:—

1. A structure composed of blocks of substantially Z or S shape in plan, arranged in courses one above the other the blocks in a course being assembled or arranged alternately in Z and S formation each alternate block being of less width than the adjacent blocks and constituting a header block.

2. A structure composed of blocks of substantially Z or S shape in plan, arranged in courses one above the other the blocks in a course being assembled or arranged alternately in Z and S formation each alternate block being of less width than the adjacent blocks and constituting a header block and end blocks for each series said end blocks having only one recess and a flat outer surface for the purpose of finishing the end or corner of the structure.

3. A structure comprising a series of blocks of substantially Z shape, a series of stretcher blocks of less width than the main blocks each of said blocks having two recesses, the said main blocks and stretcher blocks being assembled alternately with the recesses of a main block in juxtaposition laterally with the recesses of the adjacent stretcher blocks, end blocks for the series having only one recess which is in juxtaposition laterally with the recess of its adjacent block and a flat outer surface to the said end blocks, so constructed and ar-

ranged as to constitute a plurality of substantially triangular spaces so disposed relatively to each other that there is formed a substantially lattice girder-like construction in the horizontal section.

4. A structure comprising a series of blocks of substantially Z shape, a series of stretcher blocks of less width than the main blocks, each of said blocks having two parallel members joined by a diagonal truss member and presenting two recesses the said main blocks and stretcher blocks being arranged in courses one above the other and assembled alternately with the recesses of a main block in juxtaposition laterally with the recesses of the adjacent stretcher blocks, end blocks for the series having only one recess which is in juxtaposition laterally with the recess of its adjacent block and a flat outer surface to the said end blocks so constructed and arranged as to constitute a plurality of substantially triangular spaces so disposed relatively to each other that there is formed a substantially lattice-girder like construction in the horizontal section, the second, fourth and subsequent even numbered courses having its stretcher blocks directly above the main blocks of the odd numbered course below, while the diagonal truss members in each course lie directly above the truss members of the course below.

5. A structure comprising a series of blocks of substantially Z shape each of said blocks in the series having two parallel members joined by a diagonal truss member forming two recesses, the said blocks being arranged in courses one above the other the joints between the blocks of one course being staggered relatively to the joints between the blocks of adjacent courses the said blocks being assembled with the recesses of adjacent blocks in juxtaposition laterally, end blocks for the courses having only one recess which is in juxtaposition laterally with the recess of its adjacent block and a flat outer surface to the said end blocks so constructed and arranged as to constitute a plurality of substantially triangular spaces relatively to each other that there is formed a substantially lattice girder-like construction in the horizontal section while the diagonal truss members of any one course cross the triangular spaces in the course below and above.

JOHN VER MEHR.