DE WITT H. FESSENDEN.

HOLLOW BUILDING BLOCK.

APPLICATION FILED MAY 25, 1920.

1,419,623. Patented June 13, 1922.

3 SHEETS—SHEET 1.

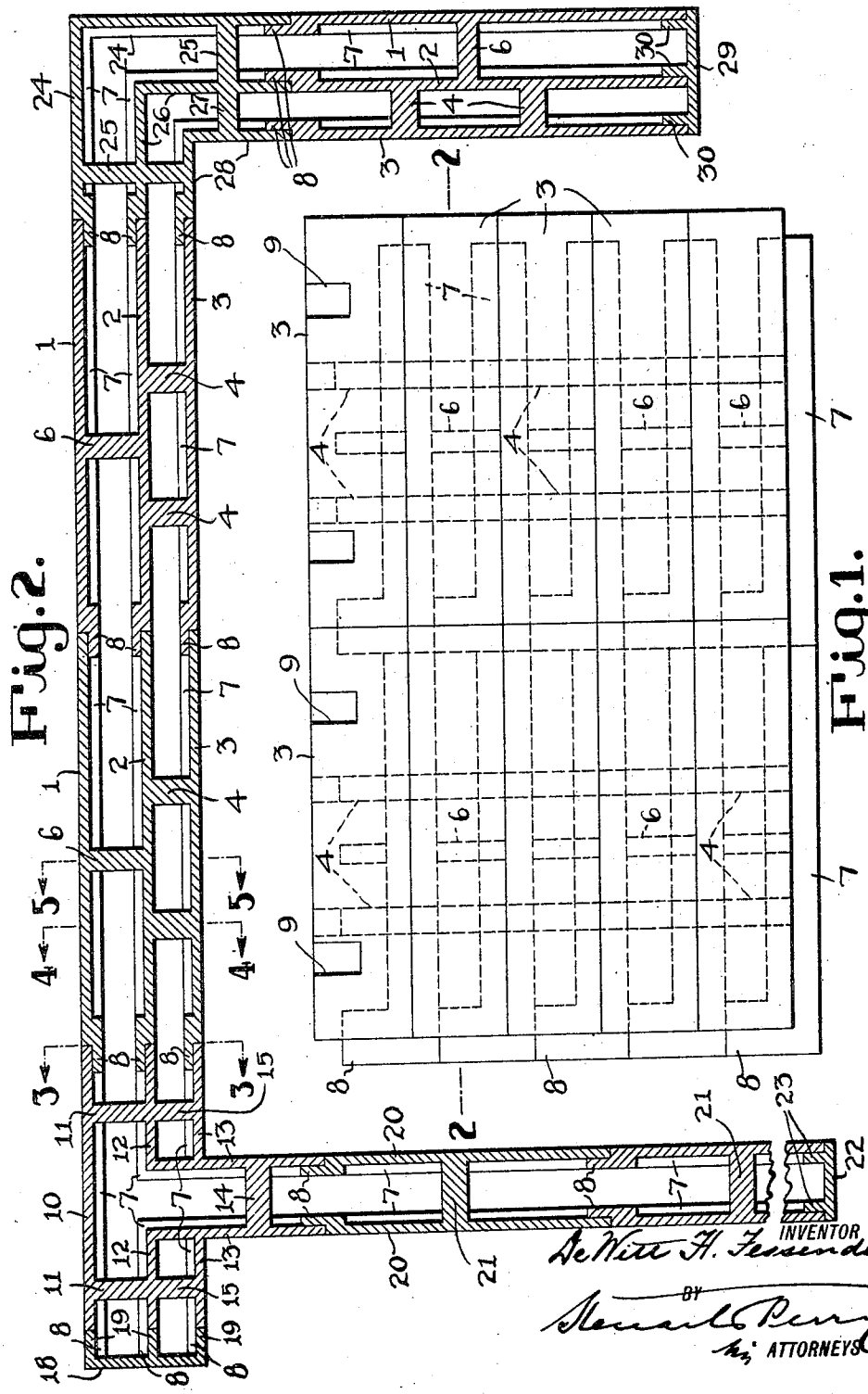


Fig. 2.

Fig. 1.

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3 SHEETS—SHEET 2.

Fig. 3.

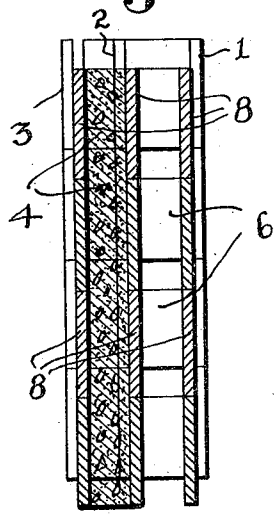


Fig. 4.

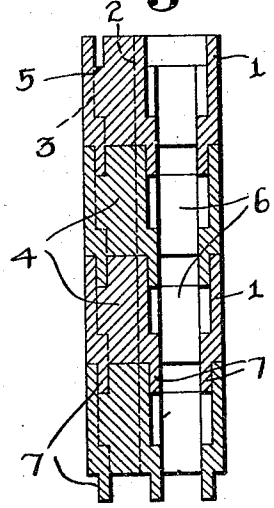


Fig. 5.

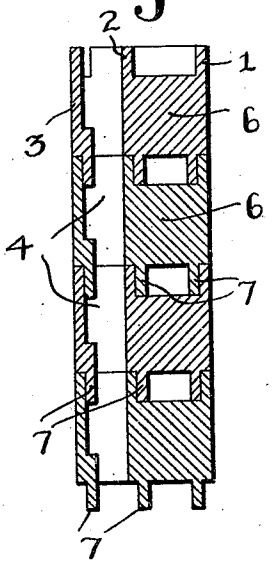


Fig. 6.

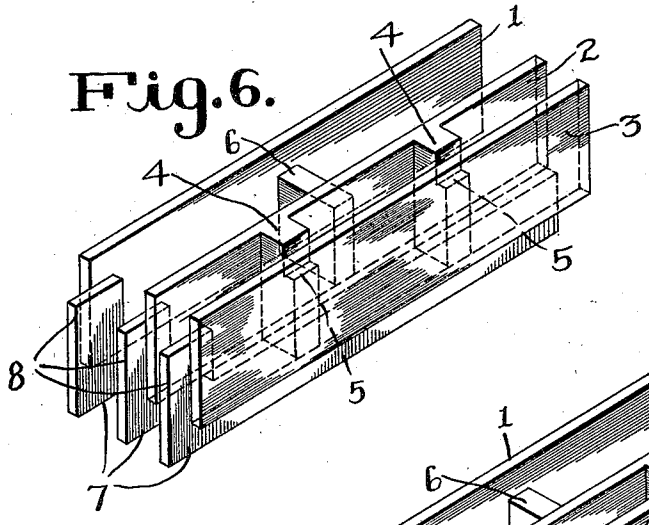
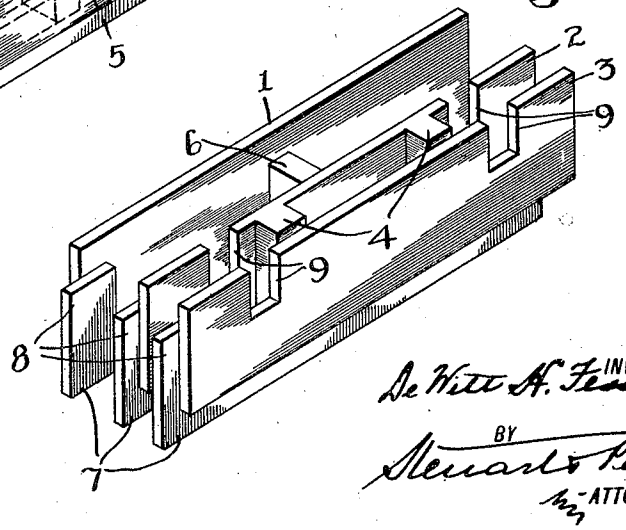


Fig. 7.



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3 SHEETS—SHEET 3.

Fig. 8.

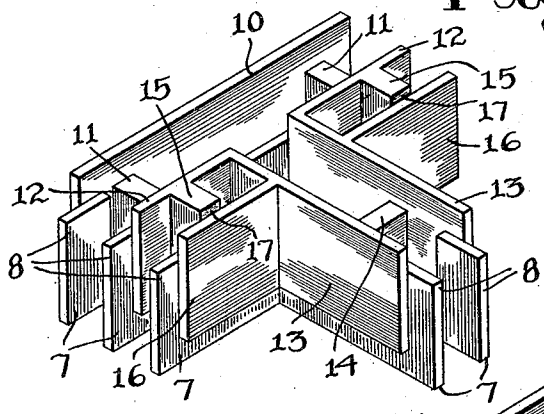


Fig. 9.

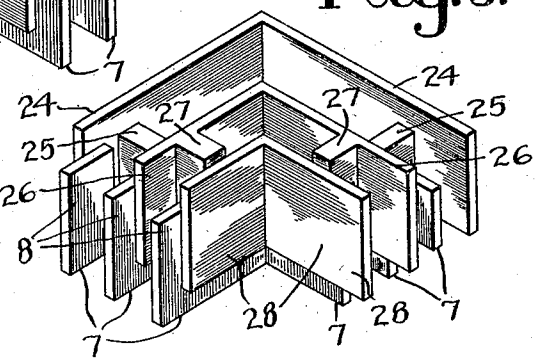


Fig. 10.

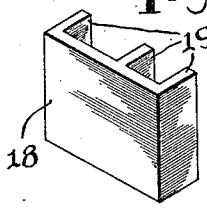


Fig. 11.

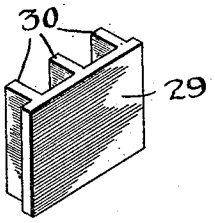
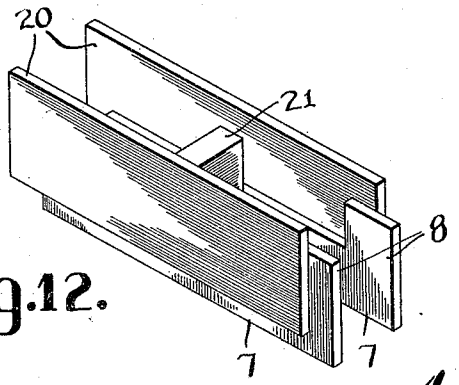


Fig. 12.



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UNITED STATES PATENT OFFICE.

DE WITT H. FESSENDEN, OF NEW YORK, N. Y.

HOLLOW BUILDING BLOCK.

1,419,623. Specification of Letters Patent. Patented June 13, 1922.

Application filed May 25, 1920. Serial No. 384,006.

To all whom it may concern:

Be it known that I, DE WITT H. FESSENDEN, a citizen of the United States of America, and resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Hollow Building Blocks, of which the following is a specification.

This invention has reference to the construction of buildings, walls, partitions, and similar structures and also has reference to the elements or media by which the construction is carried out. Particularly, the invention relates to building blocks, briquets and similar media, which, by a certain system of my invention, are fabricated into buildings of all kinds, walls, partitions, stanchions and columns, and similar structures.

Among the objects of my invention may be noted the following: To provide a system of means by which fabricated structures can be produced quickly and with great facility; to provide elemental means which may be so combined as to produce practically any kind of architectural structure including buildings, columns, stanchions, angular structures, etc.; to provide novel forms of briquets or building blocks which can be utilized for building up walls, columns, houses and partitions of the latter; to provide novel forms of building blocks for producing water and airtight structures such as modern dwellings, warehouses, cold storage structures, etc.; and to so form the briquets or building blocks that they may be assembled, joined and built up into practically any form of structure quickly, economically and with great facility.

With the above objects in view and others which will be detailed during the course of this description, my invention consists in the parts, features, elements and combinations thereof, together with the system of means for constructing buildings, walls, partitions, etc., as hereinafter described and claimed.

In order that my invention may be clearly understood, I have provided drawings wherein:

Figure 1 is a side elevation of a partially built up structure embodying the blocks of my invention;

Figure 2 is a horizontal section of Figure 1 on the line 2—2 with opposite end extensions showing the method of producing the corners, angles, partition walls and outside walls;

Figure 3 is a section substantially on the line 3—3 of Figure 2 showing details of the interlocking elements of dissimilar blocks and it also exemplifies the application of cement to a structure composed of several of the blocks in assembled relation;

Figure 4 is a section substantially on the line 4—4 of Figure 2 showing the details of construction of the wall at that point;

Figure 5 is a section substantially on the line 5—5 of Figure 2 showing the details of construction of the wall at that point;

Figure 6 is a perspective view of one form of block utilized in the construction of walls, plain stretches, or ordinary areas of fabricated structures;

Figure 7 is a perspective view of another form of my blocks usually utilized at the top of a wall for cooperation and interaction with beams and girders;

Figure 8 is a perspective view of a block utilized at points such as the extreme left of Figure 2 in the main wall structure where a partition is to be started;

Figure 9 is a perspective view of a corner block utilized for angles in a structure such as shown in Figure 2 at the extreme right thereof;

Figure 10 is a perspective view of a cap or finishing block utilized as at the extreme left of Figure 2 to terminate a given length of building structure;

Figure 11 is a perspective view of a cap or finishing block utilized at the end of a side wall such as shown at the extreme right of Figure 2; and

Figure 12 is a perspective view of a partition or interior wall block utilized as shown at the left of Figure 2.

Referring to the drawings, it will be understood that all the blocks or briquets, regardless of their characteristics or mode or place of use in a predetermined structure, are cast or molded from a suitable composition such as terra cotta, cementitious compositions, concrete, fiber and other known substances, and primarily the main briquets structure, in one form of my invention, as shown in Figure 6, is composed of parallel members or slabs such as the outer member 1, middle member 2 and inner member 3. The outer and inner members 1 and 3, re-

spectively, are plain or devoid of structural features. The middle member, however, is formed with one or more spacing blocks 4, which space the middle and inner members 2 and 3, respectively, the proper distance apart and provide inner air spaces or chambers. The said spacing blocks are provided with shoulders or notches 5 at their upper ends, in which are adapted to be laid the tongue members of other blocks. The outer member 1 is also spaced from the middle member by means of one or more blocks 6, the latter being of greater width than the blocks 4, thus separating the middle and outer members a greater distance apart than the middle and inner members. The space between the outer and middle members is for a filling of cement, concrete or other waterproof substance, or such substance or substances as are deemed desirable according to the use or function of the structure as illustrated in Figure 3 wherein only one set of corresponding openings is filled. Each of the blocks is provided with a plurality of tongues 7 extending below the lower edges of the three parallel members which enable the blocks to interlock with each other, as shown in Figure 1, the said tongues 7 being received in the notches 5 of the blocks 4 and upon the surface of the blocks 6, the latter having a height equivalent to the height of the blocks 4 at the notches 5. The tongues 7 have vertical extensions 8 at one end thereof projecting beyond the ends of the parallel members 1, 2 and 3, the said extensions 8 forming end tongues terminating short of the tops of the members 1, 2 and 3 and enabling the blocks to be interlocked endwise, as shown in Figure 2. A series of building blocks, made in accordance with the form of Figure 6, are piled one upon the other and combined lengthwise, as shown in Figures 1 and 2, and interlocked at top and bottom and at each end by tongues 7 and 8, for the purpose of making a length or stretch of side wall in any predetermined structure, and of any predetermined area. Capping blocks, for a structure such as shown in Figure 1, are made in accordance with the form of my invention shown in Figure 7, wherein the block is shown to have all the characteristic features of the Figure 6 structure, which features are indicated by the same reference characters and, in addition thereto, the middle and inner members are provided with open end, deep slots 9, which are adapted to receive the ends of girders or beams extending at a right-angle to the wall structure shown in Figures 1 and 2, and which constitute the floor or roof girders of a given fabricated structure. In Figures 1 and 2, the various members of the blocks are indicated by the same reference characters as used in Figures 6 and 7.

In Figure 8 is shown a block the characteristic features of which adapt it for a partition header, that is to say, a block which will be placed at the end of a given length of wall, for example, as shown in Figures 1 and 2, at which point a lateral partition is to be extended from the main wall, as shown at the left of Figure 2. This partition header is composed of an outer member 10 spaced by short, plain blocks 11 from middle members 12, which terminate near the middle of the outer member 10 and then extend at a right-angle to form the parallel members 13. The parallel members 13 are spaced apart by a short, plain block 14 similar to the block 11, and notched blocks 15 space the middle members 12 from the inner short members 16. The blocks 15 are notched at 17, the same as the blocks 4 in the Figure 6 structure. The partition header of Figure 8 is also provided with interlocking tongues and integral extensions, which, for the purpose of ready reference and identification, are indicated, respectively, by 7 and 8, the same having the same functions as the similar features in Figures 6 and 7, as clearly shown in Figure 2.

If the wall structure is to be terminated after the placing of the partition header of Figure 8, then an end cap block, such as shown in Figure 10, is applied as in Figure 2, said cap block consisting of the face member 18 with parallel members 19 extending at an angle to the face member 18. The members 19 are spaced apart the same as the members 16, 12 and 10 in Figure 8, so as to abut against the latter, and so that the tongues 7 and extensions 8 thereof may interlock with the end cap member, as shown in Figure 2.

The lateral partition wall thus started by the partition header, shown in Figure 8, is extended by a block such as shown in Figure 12. This block consists of the two members 20 spaced in parallelism by a short, plain block 21 and having the interlocking tongues and extensions thereof 7 and 8 respectively, the same as in the other structures. Thus, the partition wall can be extended along indefinitely until it is desired to terminate the same, when an end cap block, such as shown at the extreme left of Figure 2, will be applied, the same consisting of the outer member 22 with angular extensions 23 adapted to interlock with the ends of parallel members 20 and abut against the non-extensioned ends of the interlocking tongues 7.

To form the angle or corner of a wall, building or other fabricated structure, a corner block such as shown in Figure 9, is employed, the same consisting of the outer members 24 arranged at an angle to each other and spaced by the short, plain blocks

25 from inner members 26 arranged at an angle to each other, which in turn are spaced by notched blocks 27, having the same characteristics as the blocks 4 in Figure 6, from inner members 28 arranged at an angle to each other. The vertices of the angles of the several members 24, 26 and 28 are in the same vertical plane as shown in Figure 9. The corner block thus composed is also provided with interlocking tongue members and extensions thereof similar to those of Figures 6, 7 and 8, and are indicated by similar reference characters. Thus the corner blocks may be piled one upon the other and interlocked with runner or wall blocks, as clearly shown in Figure 2. To extend the outer wall at this point of the structure, as shown in Figure 2 at the extreme right, the runner blocks, shown in Figure 6, are interlocked with the corner blocks at both extremes, and as many of said blocks are employed as may be desired according to length or area of the outer wall. When it is desired to terminate the outer wall, as shown at the extreme right of Figure 2, an end terminal block, such as shown in Figure 11, is employed, the same consisting of the face member 29 and parallel, angular, interlocking members 30, the interlocking members being adapted to abut against the non-extensioned ends of the tongues 7 and the face member 29 against the ends of the members 1, 2 and 3.

From the foregoing detail description it will be seen that I have provided building block structures which lend themselves readily to practically every situation encountered in fabricating walls, dwellings and other similar buildinges, stanchions, columns, angles, etc. and cap them off by terminal members whenever required and that any structure produced thereby will be warm, dry, and extraordinarily strong, durable and substantial. The combination and arrangement of the various blocks, as shown in Figures 1 and 2, constitute a system of means of great practical importance, since the characteristic features of the elemental means give the latter great flexibility of assembly and permit a high degree of facility in the fabrication of structures of various descriptions; and the method of construction, involving the use of hollow blocks, briquets, or tiling, formed into angle or corner members, partition-headers, wall and partition blocks, is simple, economical and speedy, since an unskilled person can readily select the type of block required for a given purpose, apply them one to the other vertically and laterally, pour in the limpid cement, concrete or other filling, tamp it properly and sufficiently to cause unification into a homogeneous mass, and thus interlock the associated blocks in two angular directions by a solidified mass differing, may be in general characteristics, from the composition of the blocks. The outer walls, if desired, may be lined or marked by following the division between blocks, or the said walls may be left as constructed, leaving the solid, smooth appearance which is quite attractive and greatly desired by many persons.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. A concrete building block comprising an integral whole yet formed of the following characteristic elements, a plurality of slabs of approximately equal dimension arranged in parallel relation and terminating at each end respectively in common transverse planes, and mounted between parallel planes, a second series of slab members of approximately the same length and width as said first series and mounted with reference to said first series so that one end of said slab members extends through and beyond the plane in which one end of the first series terminates, and also extends through and below the plane in which the first series terminate, with suitable block members interposed between said slabs, said block members being provided with suitable cavities adapted to receive said second group of slab members when one block is placed adjacent another block.

2. In a concrete building structure, a building block having the following characteristic elements, a plurality of slabs supported in spaced relation and terminating at any end in a common plane passing at right angles to the ends of said slabs, a second series of slabs also in spaced relation and each joined to one side of each of the slabs of the first series, said second series of slabs adapted to extend below each of said first series and also beyond one of the ends thereof to form flanges which are adapted to cooperate within other blocks assembled therewith and in the assembled relation the first series of slabs of one block abut the first series of slabs of another block and said second series of slabs engage parts of the second series on a second block and overlap the abutting edges of the first series of slabs, and suitable spacing blocks interposed between the slabs of the first series of any block for maintaining said slabs in said spaced relation.

3. In a concrete building structure, a block having the following characteristic elements, a plurality of slabs supported between parallel planes and terminating at their ends in planes at right angles to said slabs, the corresponding ends of said slabs at any end of the block being in a common plane, a series of spacing blocks interposed between said slabs for maintaining them in spaced relation and being provided with cavities to receive L shaped slabs carried by other blocks

adapted to be assembled with said block, and a second series of slabs of L shape, formed integral with each of the slabs of the first series and adapted to be offset therefrom and to have a portion of each of the slabs of the second series extend below the bottom edge and beyond one end of each of the slabs of the first series to form a continuous tongue or flange throughout substantially the full length and height of each slab for the purpose of engaging sides of the slabs of the first series of other blocks assembled with the first block thereby forming a reinforcing plate along the abutting edges of the slabs of the first series of the several blocks.

Signed by me at New York, N. Y., this 22nd day of May, 1920.

DE WITT H. FESSENDEN.

Witnesses:
DOROTHY FRANK,
SADIE OLIKER.