I. POMERANTZ.

WALL CONSTRUCTION.

APPLICATION FILED MAR. 15, 1918.

1,320,647. Patented Nov. 4, 1919.

Fig. I

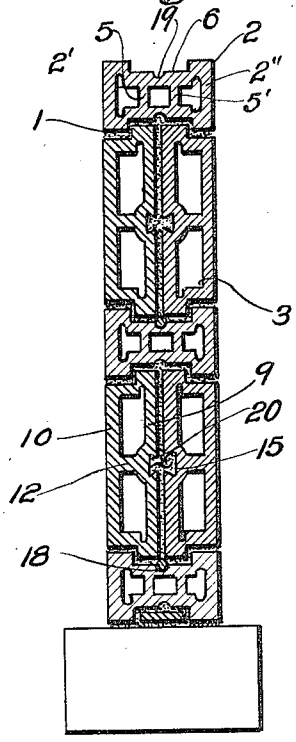


Fig. II

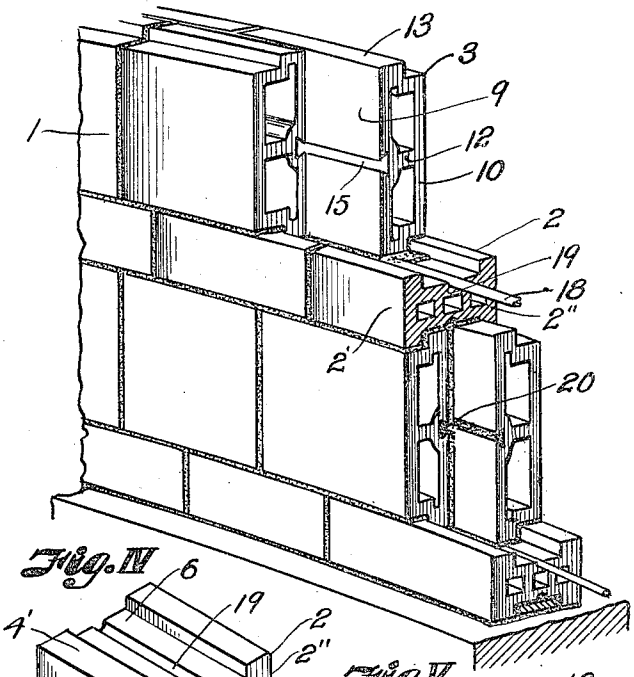


Fig. IV

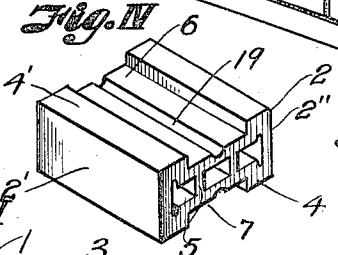


Fig. V

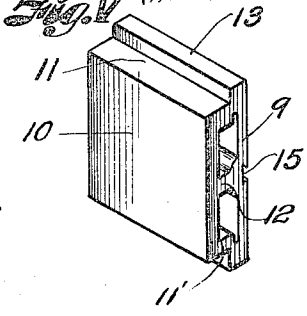


Fig. III

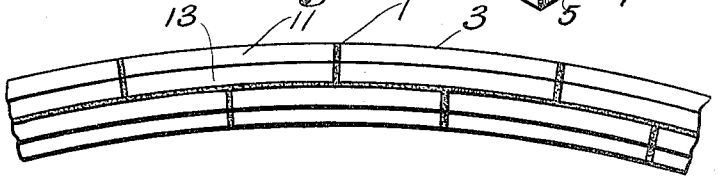


Fig. VI

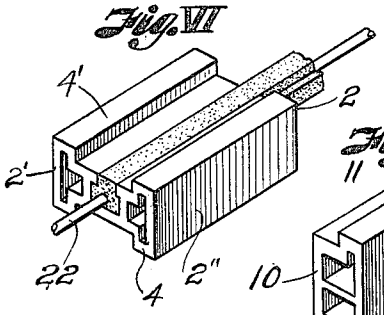


Fig. VII

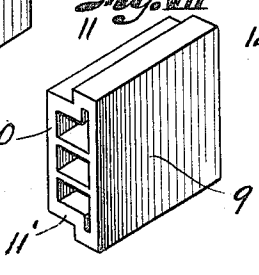


Fig. VIII

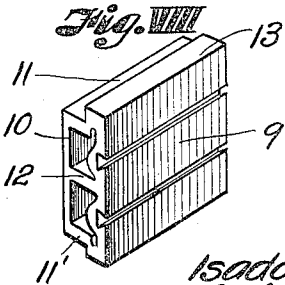


Fig. IX



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WALL CONSTRUCTION.

1,320,647. Specification of Letters Patent. Patented Nov. 4, 1919.

Application filed March 15, 1918. Serial No. 222,578.

To all whom it may concern:

Be it known that I, ISADORE POMERANTZ, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Wall Construction; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to wall construction and more particularly to improvements in the making of hollow tile building blocks especially adapted for use in the construction of buildings, silos, chimneys, grain elevators or other structure where air, weather and vermin proof walls are desired; the principal object of the invention being to provide blocks or building tile of this character that may be arranged in inter-locking tiers in such relation that any direct joint through the wall may be obviated, a wall of maximum strength and rigidity provided, and an absolutely wind, water and vermin proof structure may be formed.

It is a further object of the invention to provide blocks that may be handled more easily than the usual type of building tile and to provide the same with means whereby mortar keys may be formed to more securely lock the parts together to make a rigid and durable structure and to provide for the placing of reinforcing rods or bars in the walls so that they will be able to withstand the maximum internal pressure that may be placed thereagainst.

A still further object of the invention is to provide blocks that may be arranged to form either straight or curved walls and in either case will obviate direct or open joints, either vertical or horizontal, through the walls.

In accomplishing these and other objects of the invention I have provided improved details of structure, the preferred forms of which are illustrated in the accompanying drawings wherein:

Figure I is a transverse vertical section through a wall constructed of building tile made and assembled according to the present invention.

Fig. II is a detail perspective view of a portion of a wall particularly illustrating the arrangement of the tile whereby the broken or closed joints are effected.

Fig. III is a horizontal sectional view through a portion of a curved wall.

Fig. IV is a detail perspective view of one of the tie blocks.

Fig. V is a detail perspective view of one of the face blocks.

Fig. VI is a detail perspective view of a form of block used in a tie course, constructed to receive additional reinforcing members.

Fig. VII is a perspective view of a smooth faced block.

Fig. VIII is a slightly modified form of face block showing two mortar grooves.

Fig. IX is a perspective view of a tie clip used in the wall.

Referring more in detail to the drawings:—

1 designates a part of a building wall constructed of tile made and assembled according to the present invention, comprising what may be termed tie blocks 2 and face blocks 3, which are arranged in alternating tiers to form a wall wherein the tie blocks serve primarily as means for locking the face blocks securely together.

The tie blocks 2 are of hollow tile construction comprising inner and outer vertical face walls 2′, 2″, and upper and lower face walls 4—4′, and are strengthened by vertical, longitudinally extending webs 5—5′. The blocks are preferably rectangular in elevation and cross section, are of conveniently handled lengths, have a relatively shallow depth or vertical thickness and are provided respectively on upper and lower faces with shallow relatively wide channels 6 and 7 which receive, as is presently described, coöperating parts of the face blocks 3 to form interlocking joints therebetween.

The face blocks 3 are also of hollow tile construction and are of such size that they may be easily handled, being rectangular in side elevation and in cross section, are preferably the same length as the blocks 2 but substantially greater in height and having a thickness slightly less than half the width of the tie blocks.

The blocks 3 also comprise inner and outer vertical walls 9 and 10 respectively, upper and lower walls 11—11′ and a horizontal, centrally located connecting web 12; the upper and lower walls 11—11′ having

projecting ribs or rails 13 formed longitudinally along their inner edges, which are so arranged that, when the blocks are properly assembled in a wall in combination with the blocks 2, the ribs 13 will project within the channels of adjacent tie blocks 2 and the latter blocks serve to hold the face blocks together in proper relation.

On the inner faces of the blocks 3, I also provide horizontally extending, dove-tailed grooves 15 preferably located so that, when the blocks are assembled, the grooves will register with each other to form a continuous key.

In building a wall of blocks so constructed, a course of the tie blocks are first placed, end to end, in proper alinement on a foundation, mortar being applied between the joints and then on the upper faces. The face blocks are then arranged as is particularly shown in Figs. II and III, the inner walls of the blocks being placed back to back so that the lower ribs 13 of the blocks seat within the upper face channels of the lower tie course. Mortar is also filled in between the blocks and within the dove-tailed keyways and between the ends of adjacent blocks to form a perfectly tight joint between all of the blocks. These face blocks are also placed to bring the joints in offset relation as is shown in Fig. III so that at no place in the wall is there a direct joint through the wall.

While it is not necessary in ordinary straight walls, if it is desired reinforcing rods 18 may be placed within the upper channels of the blocks of the tie course to strengthen the structure; the tie blocks being provided with centrally located longitudinally extending grooves 19 wherein the rods may seat.

I have also provided a sort of S-shaped connecting clip 20 (Fig. IX) which may be used to further tie the face blocks together; these ties being inserted in the mortar keyways formed within the adjacent dovetailed grooves, as shown in Fig. I.

Another tie course is then placed to cover the upper faces of the course of face blocks and this ties them securely together, the wall being completed by alternately laying courses of tie and face blocks.

In Fig. VI, I have shown a form of tie block wherein the upper face wall is slotted longitudinally so that a reinforcing rod 22 may be placed therein and the space thereabout filled with mortar to embed the rod. This construction permits the use of more or heavier reinforcing and enables the wall to be strengthened sufficiently to withstand a maximum amount of pressure.

Fig. VIII shows a face block provided with two dove-tailed key grooves instead of the one, which permits a more effective keying of the blocks together, while Fig. VII shows a plane surfaced block.

It is apparent that a wall constructed of blocks so formed and assembled will form a structure wherein there are no direct joints through the wall, all the blocks being interlocked together to give the structure rigidity and strength and making it absolutely air, water and vermin proof.

While I have shown the wall constructed of hollow tile, I do not wish to be limited to this particular type of block, as it is apparent that solid blocks could be used with like results.

It is further apparent that the air spaces in the blocks prevent external temperatures from affecting the internal face of the walls so that sweating of the blocks is prevented.

Having thus described my invention, what I claim to be new therein and desire to secure by Letters-Patent, is:—

1. A wall construction consisting of two sets of tiles superposed one upon the other in alternate rows, those of one set each having a horizontal web portion with vertical side flanges above and below the web, those of the other set consisting of block members having separate halves arranged back to back, said block members having upper and lower tongues intermediate the side faces thereof, the tongues fitting into the space between the flanges of the other set, longitudinal alining grooves in the adjacent back faces of the opposite halves of the respective blocks, and S-shaped key members engaging the grooves to secure the two halves together.

2. A wall construction consisting of two sets of tiles superposed one upon the other in alternate rows, those of one set each having a horizontal web portion with vertical side flanges above and below the web, those of the other set consisting of block members having separate halves arranged back to back, said block members having upper and lower tongues intermediate the side faces thereof, the tongues fitting into the space between the flanges of the other set, longitudinal alining dove-tailed grooves in the adjacent back faces of the opposite halves of the respective blocks, S-shaped key members engaging the under-cut portions of the dove-tailed grooves, and cementitious material in the dove-tailed grooves in which the S-shaped key members are embedded.

In testimony whereof I affix my signature.

ISADORE POMERANTZ.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."