D. McINTYRE.

HOLLOW BLOCK.

APPLICATION FILED JULY 13, 1914.

1,128,020. Patented Feb. 9, 1915.

Fig. 1.

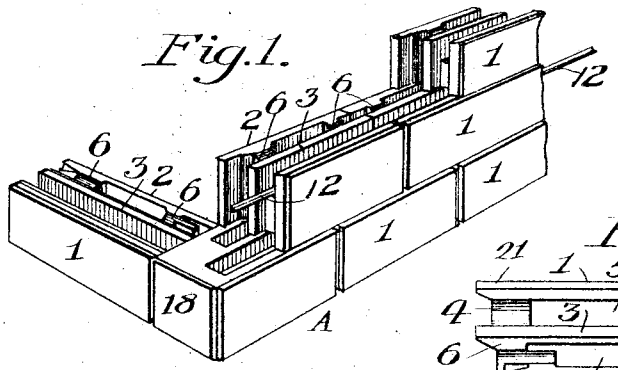


Fig. 2.

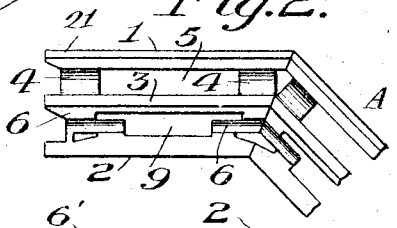


Fig. 3.

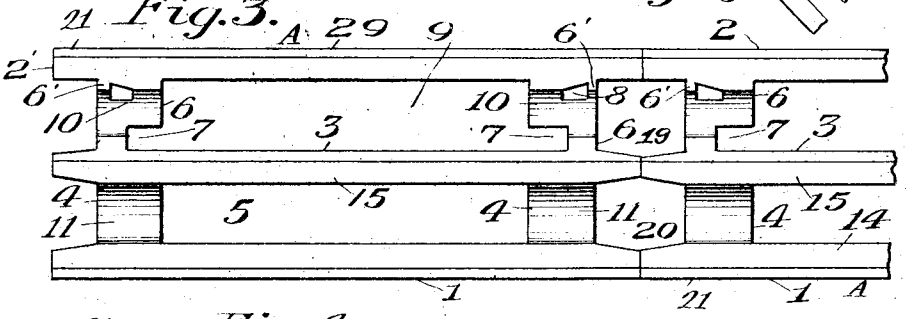


Fig. 4.

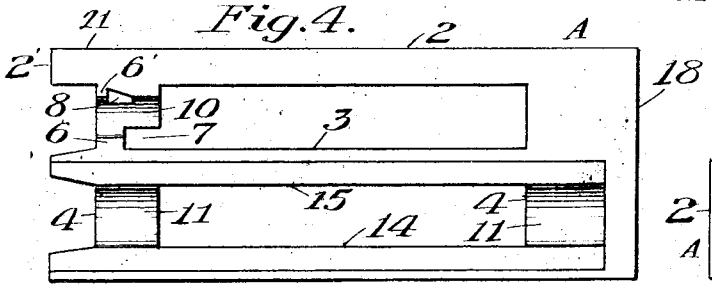


Fig. 5.

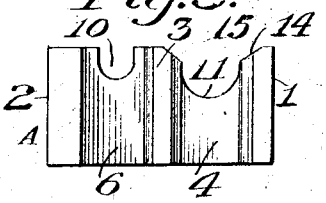
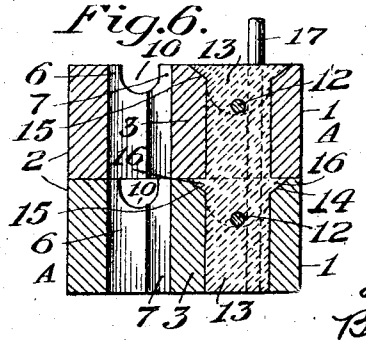


Fig. 6.



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HOLLOW BLOCK.

1,128,020. Specification of Letters Patent. Patented Feb. 9, 1915.

Application filed July 13, 1914. Serial No. 850,585.

To all whom it may concern:

Be it known that I, DAVID McINTYRE, a citizen of the United States, and a resident of Cambridge Springs, in the county of Crawford and State of Pennsylvania, have invented a new and useful Improvement in Hollow Blocks; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to a hollow block construction and has special reference to such a block which is generally formed from cement and designed for the erection of walls, etc.

The object of my invention is to produce a cheap, simple and efficient hollow block for building and other purposes wherein provision is made for preventing to a great extent, the passage of moisture through such block, and wherein the arrangement is such as to enable a wall formed of said blocks to be securely bound together through the insertion of cement or mortar poured through vertical passages therein and for tying the walls of the blocks together by the use of longitudinal and transverse reinforcing rods.

A further object of the invention is to provide means for strengthening a portion of such blocks and to overcome the liability of breaking the same at such portions.

To these ends my invention consists, generally stated, in the novel arrangement, construction and combination of parts as hereinafter more specifically set forth and described, and particularly pointed out in the claims.

To enable others skilled in the art to which my invention appertains, to construct and use my invention, I will describe my improved hollow block construction more particularly, referring to the accompanying drawing, in which:—

Figure 1 is a fragmentary view in perspective of a portion of a wall having my improved blocks. Fig. 2 is a fragmentary view showing in plan the manner of forming an angle in the wall other than a right angle. Fig. 3 is an enlarged plan view of one of the intermediate blocks shown in plan and portion of the succeeding block laid end to end with respect thereto. Fig. 4 is a plan view of one of the corner blocks employed. Fig. 5 is an end elevation of one of the corner blocks. Fig. 6 is a sectional view through a portion of the wall formed of said blocks.

As shown in Fig. 3 each of the blocks A comprises an outer face 1, an inner face 2 and longitudinal extending partition 3, and such portion or face 1 of the block forming such outer face is connected to said partition by the integral transverse members 4 extending between and connecting the ends of said parts, which form a vertical opening 5 extending through such block. The inner face portion 2 of the block A is connected at its ends with the partition 3 by the zig-zag transversely extending members 6, and these members have their points of connection with the partition 3 and said inner face portion 2 offset, which leaves next to the partition 3 an air space 7, and next to said inner face portion an opening 8 which forms an air space. In such an arrangement both of the two sides of the connecting members 6 and a portion of the remaining sides are exposed to the circulation of air, so that any moisture entering the members 6 will become to a great extent, evaporated before reaching the inner portion 2 of the block A. The transverse members 6 in thus connecting the partition 3 and inner face portion 2 of the block A form an air space 9, which, when the blocks are laid in a wall, as shown in Fig. 1, are adapted to form vertical air flues for the circulation of air. The transverse members 6 are hollowed out as at 10 on the top longitudinally of the blocks A and thus provide for the circulation of air between the spaces 9 of the blocks, when such blocks are laid up in a wall as shown in Fig. 6. The upper edges of the transverse members 4 in the blocks A are provided with the concavities 11 such as shown at Fig. 5 and longitudinally extending tie rods 12 are adapted to be placed in such concavities shown in Figs. 1 and 6 to form a reinforcing connection or tie between the blocks in the wall.

In forming a wall of the blocks A they are so placed as to cause the openings 5 therein to register, which will form vertical passages for the reception of mortar or cement 13 that is poured into such passages to thereby bind the said blocks in the wall together, and such mortar or cement as shown in Fig. 6. The inner edge of the outer face portion 1 is inwardly beveled as at 14 and the opposite edge of the partition 3 is cor-

respondingly beveled as at 15 in order to allow some of the plastic mortar or cement to enter between the edges of the bearing portions of the blocks and this arrangement affords a V-shaped opening between the edges of said face portions and said partitions when the blocks are placed one upon the other, as the underface of each block is flat, which allows the mortar or cement 13 which is poured into the vertical passages of the blocks to fill said portions as shown at 16, Fig. 6, to thereby serve to more firmly bind the blocks together, and afford a partial cement bearing between the edges of the bearing members of the superimposed blocks. When the blocks A are laid in a wall and the cement is poured, such blocks are united in a homogeneous mass with respect to the outer portions thereof although the one half of the blocks is left unfilled, which will produce an air space or passage for the circulation of air vertically and transversely of the blocks, thereby eliminating to a great extent the presence of moisture in the inner face 3 of the blocks and thus keep the wall comparatively free from dampness.

The wall may be reinforced if desired by vertical rods 17 which are passed downwardly through the vertical passage in the blocks before the cement or mortar is poured therein and such use of the said rods is illustrated in Fig. 6, while upon the pouring of cement or mortar the longitudinal rods 12 as well as such vertical rods 17 become embedded therein and thereby greatly strengthen the wall to resist lateral pressure.

The corner blocks 18 provided with smooth ends such as is shown in Figs. 1 and 4 are used to enable the wall to be properly finished at the corners.

The end portions of the outer and inner faces 1 and 2 and the partition 3 are caused to project beyond the transverse members 4 and 6, as at 21, so that when the blocks A are placed end to end, as shown in Fig. 3, vertical air spaces 19 and 20 are formed between said transverse members and end portions in order to afford a circulation of air on both sides of said members.

In providing for the air space 8 and the air spaces 19 and 20 through the projecting end portions 21 on the blocks A, such portions can be strengthened at such spaces 8 by a cross-web 6′ connecting said portions and the outer face of the transverse members 6, which will brace said portions and overcome the liability of the same being broken off in handling, shipping or from any other cause.

It will thus be seen that by means of my improved hollow block, such as herein shown and described, a wall may be erected of great strength and durability, and within such wall provision is made for a circulation of air through the same as will completely overcome dampness in the portion of the block forming the inner face of the wall.

Various modifications and changes in the design, application and construction of my improved hollow block may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

What I claim as my invention and desire to secure by Letters Patent is:—

1. A hollow building block having a longitudinal partition dividing the block to form openings through the same, transverse zig-zag members connecting said partition with the inner face of such block, and a web connecting the outer end of said members with the inner face of said block.

2. A hollow building block having a longitudinal partition dividing the block to form openings through the same, transverse zig-zag members connecting said partition with the inner face of such block for forming projecting ends on said face and an air space between the same, and a web extending across said air space and connecting the outer end of said members with said projecting ends.

3. A hollow building block having a front face member, a rear face member, a longitudinal partition interposed between said members, a transverse connecting member between said partition and said front and rear members, the connecting members between the partition and the rear member having offset portions, and a web connecting the outer end of said offset portions with the rear member.

4. A hollow building block having a front face member, a rear face member, a longitudinal partition interposed between said members, a transverse connecting member between said partition and said front and rear members, the connecting members between the partition and the rear member having offset portions to form projecting ends on said rear member and air spaces between the said connecting members, partition and rear members, and a web extending across the air space between said rear member and said offset portions and connecting said portions with said projecting ends.

In testimony whereof, I the said DAVID MCINTYRE, have hereunto set my hand.

DAVID McINTYRE

Witnesses:
J. A. BOLARD
ISABEL SHEPARD.