July 2, 1929. A. C. OESTERLA 1,719,620

WALL STRUCTURE AND BUILDING BLOCK THEREFOR

Filed Sept. 29, 1926 2 Sheets-Sheet 1

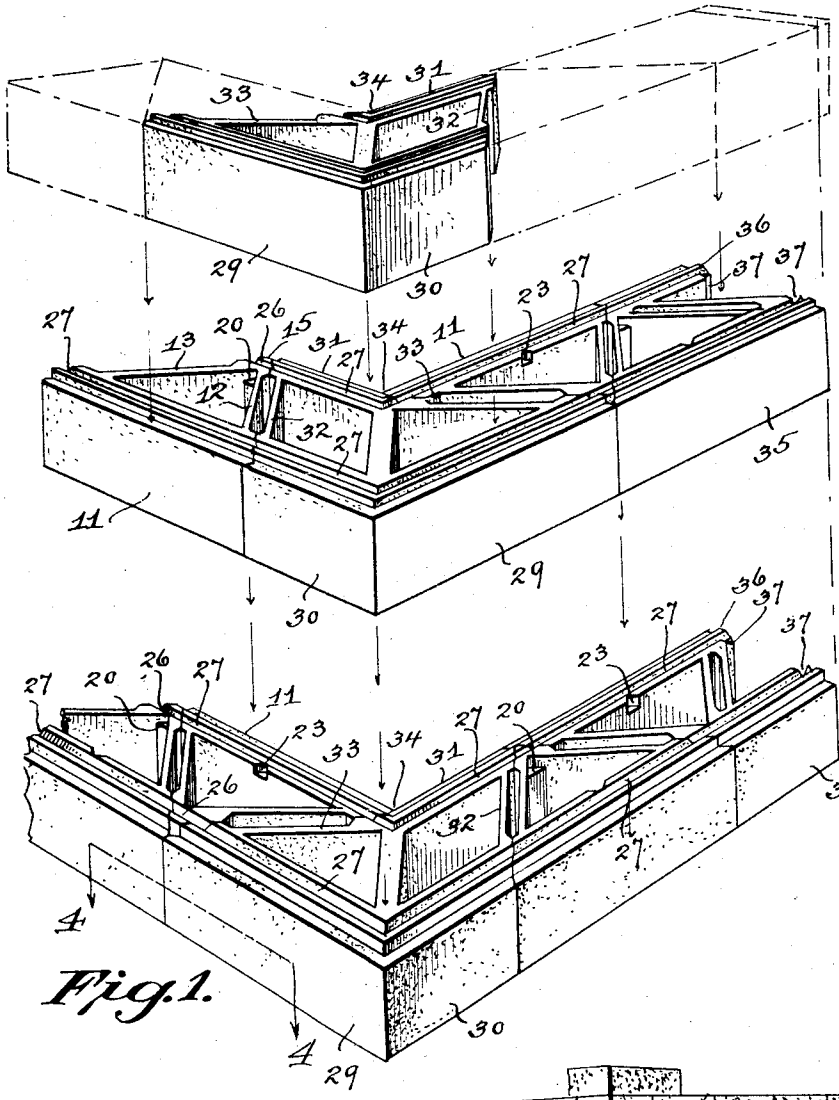

Fig. 1.

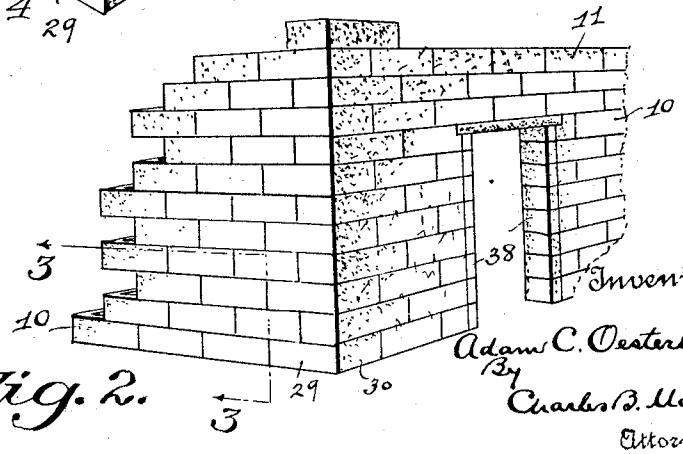

Fig. 2.

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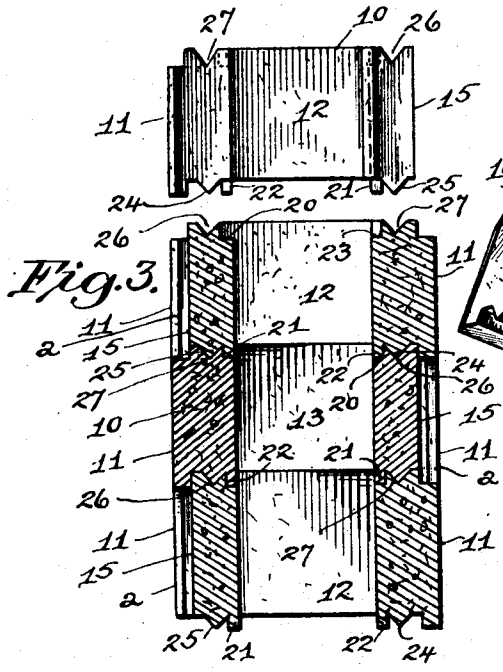

Fig. 3.

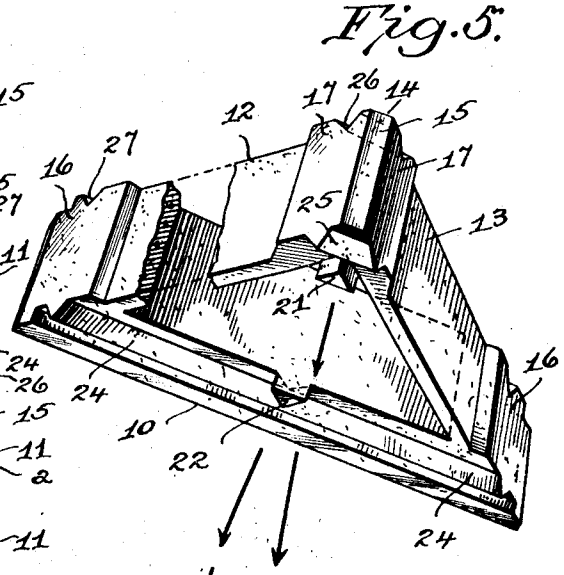

Fig. 5.

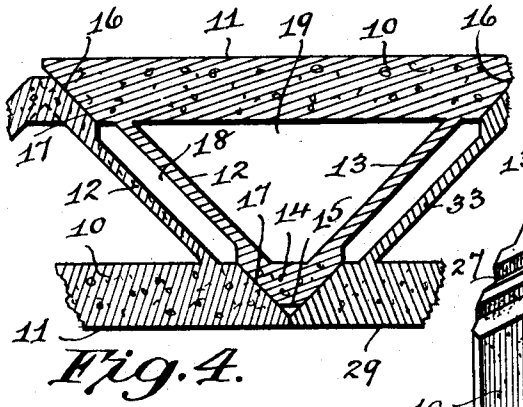

Fig. 4.

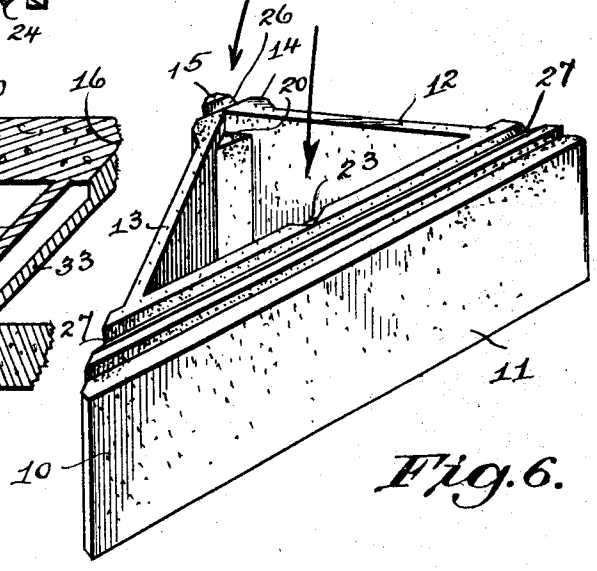

Fig. 6.

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UNITED STATES PATENT OFFICE.

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WALL STRUCTURE AND BUILDING BLOCK THEREFOR.

Application filed September 29, 1926. Serial No. 138,379.

This invention relates to an improved hollow wall structure and building block therefor.

The object of the invention is to provide a novel construction of hollow wall wherein the various blocks may be locked together in a novel manner; that the blocks intervening between corner-blocks will have but one face exposed at either the inner or outer faces of the wall so that, if desired, the wall may have a like appearance on both sides and the upper and lower faces of the blocks in the wall structure will be interlocked in a novel manner to prevent the passage of rain, moisture or air therethrough.

Another object is to provide a wall block of novel construction that enables the registration of one block with others at the side or bottom thereof in such manner that the same may be laid by unskilled labor.

The invention is illustrated in the accompanying drawings, wherein,—

Fig. 1 shows in perspective, three courses of blocks, one above another to illustrate how the joints in the several courses break and how one course is laid upon the other.

Fig. 2 illustrates on a small scale a portion of a completed wall formed with the improved block.

Fig. 3 shows a vertical sectional detail through several courses in a wall structure to show how one course interlocks with another as the same would appear if viewed on the line 3—3 of Fig. 2.

Fig. 4 illustrates, on an enlarged scale, a horizontal sectional detail through a complete block and a portion of the blocks at each side thereof just as the same would appear if viewed on the line 4—4 of Fig. 1.

Fig. 5 shows one of the improved blocks in perspective showing the bottom locking devices thereon, while

Fig. 6 illustrates a perspective view of the top portion of another block,—the two Figures 5 and 6 being connected by darts to show how a projecting registration device on the bottom of the one block will engage a recessed registration device on the top of the block beneath it whereby proper registration is quickly obtained.

Referring to the drawing, and particularly Figs. 3—4—5 and 6 thereof the numeral 10, designates one of the improved blocks which I employ in a wall structure between corner-blocks of a slightly different shape which latter blocks will presently be described.

The blocks 10 as clearly shown in Figs. 4—5 and 6 are of a triangular shape and in practice one surface only, to wit, the surface designated 11 will be an outer exposed surface.

The term "outer" as used by me herein is intended to mean an exposed surface as the blocks are set up whether that surface be at the actual outer side or the inner side of a wall or partition.

The term "outer" is also regarded by me as an outside surface of the superposed blocks even though such surface may afterward be covered by a plaster or other covering.

The walls 12 and 13 of each block 10 extend in converging directions from opposite ends of the face 11 and form a V-point 14, at the side where they merge. This V-point is not actually sharp but has a narrow vertical flattened face 15 as clearly shown in Figs. 4 and 5 of the drawing.

In forming the side walls 12 and 13 of the triangular block, I prefer to set them in slightly from the beveled contacting faces 16 and 17 so that when one block is set up next to another, contact between them will be made only by the face 16 of one block seating against a face 17 of the next block whereas the two side walls 12—12 of adjacent blocks and the walls 13—13 of two adjacent blocks will confront each other but will be separated vertically one from the other thus producing a vertical air-space 18 between them.

In addition to the side air-spaces 18 formed between adjacent blocks, each block 10 has a central air space 19 so that as the wall or partition is built up the vertical air-spaces 18 and 19 will be criss-crossed.

By reference to said Figs. 4—5 and 6 of the drawings, it will be noted that the central air-space 19 in each block is of a triangular shape and that at the upper edge of each block and at the apex of the triangularly-shaped central air-space 19, there is formed an inside ledge 20 while at the bottom of each block and also at the apex of said triangularly-shaped central air-space 19, there is formed a downwardly-projecting triangular lug 21,—the lug 21 being clearly shown in Fig. 5 of the drawings.

By again referring to Figs. 5 and 6 of the drawing, it will be seen that at the bottom side of each block and at the base of the tri-

angularly-shaped opening 19, there is a second downwardly-projecting lug 22 (which latter lug is directly opposite the lug 21 at the apex of the triangle) while in the top of each block and also at the base side of the triangularly-shaped opening 19 there is a top recess or notch 23.

These ledges 20 and notches 23 in the top of one block and the lugs 22 and 21 on the bottom serve the purpose of effecting the desired registration of one block when it is placed upon another,—it being understood that when placing one course of blocks upon another that a block on top will lap portions of two blocks beneath it and that the bottom lug 22 at the base of one triangular block will seat on the ledge 20 at the apex and upper side of the triangular block beneath it.

In a like manner, the bottom lug 21 at the apex of the triangular block on top will project down into the notch or recess 23 in the upper edge and base of the triangular block beneath it, as indicated by the heavy darts connecting the views shown in Figs. 5 and 6 of the drawings.

The ledges, notches and lugs 20, 23, 22 and 21 therefore form positive registration devices in placing one block upon another so that accurate vertical positioning of one block upon another may be effected by unskilled labor.

Attention is directed to the fact that in Fig. 3, the three lower blocks are shown in section while the uppermost block is shown in side view and that the flat surface 15 on the apex of the triangle in the lower block is at the left side of the lowermost block while the apex of the second block is at the right side and the apex of the third block is again shown at the left.

The apparent recesses at, *a*, in Fig. 3 do not exist in the finished wall or partition but do exist in this figure because the section passes through the joints between the blocks in the several courses. This explanation is made because of possible difficulty in accurately reading Figure 3.

To provide for interlocking the blocks of one course with respect to those above and below them and to also effect a tight weather-proof joint between the courses, I provide the base or long side of each triangular block with a bottom interlocking projection 24 and the apex side of the block with another interlocking projection 25.

At the top of each block the apex side thereof has a groove or recess 26 while the base side has a groove or channel 27.

When one block is therefore seated in staggered or lapped relation on top of three blocks beneath it, the interlocking projection 24 on the bottom of one block will engage the recess 26 in the apex end of one of the blocks beneath it and will also engage or enter portions of the grooves or channels 27 in the two other blocks also beneath it, while at the projection 25 at the apex end of the upper block will enter the groove or channel 27 in the top of the center one of the three blocks beneath it.

There will therefore be a triangular interlocking of one block above with three blocks beneath it with the result that a rigid and well-built wall or partition will be formed.

In carrying out the invention in practice, it is necessary to provide a special block for use at right-angle turns or corners and while the present invention is not restricted to any precise construction of corner-block a form of such a block is illustrated in Fig. 1 of the drawing to which attention is now directed.

In this Fig. 1, there is shown three courses of corner blocks 28, one above another.

Each corner block has one long outer side 29 and one short outer side 30 which extends at right angles to the side 29.

At the inner side, each corner block has one inner wall 31 which is formed on the same leg of the angle as the short outer wall or side 30,—the block having an oblique end wall 32 which extends from and connects the short outer side 30 with the one inner wall 31.

The long outer wall 29 of each corner block is connected with the inner 31 by an oblique end wall 33,—the joinder of said oblique end wall 33 with the inner wall 31 taking place in the inner corner angle 34 of the corner block.

Each corner block has the same arrangement of lugs 24 and grooves or channels 27 at its bottom and top edges as are employed in the triangular blocks 10 so that interlocking of one course with the next may readily be effected.

In some instances where a door or window frame opening is to be provided I provide a special block 35 in which the end 36 thereof is provided with dove-tailed end lugs 37 whereby a facing block 38 or slab may be vertically slid into place at said end to provide a finish as indicated in Fig. 2 of the drawings.

Having described my invention, I claim,—

1. A wall block of triangular shape having registration devices on the upper and lower faces of its long side to be engaged by coacting faces of a block above and below it to require the blocks to register accurately in a vertical direction when they are superposed, said block also having midway of its long side at the top and bottom and also at the top and bottom of its apex side other registering devices which coact with registering devices on the long and apex sides of blocks above and below it to compel accurate registration of the superposed blocks in a horizontal direction whereby accuracy in the laying of the blocks both in a vertical and a horizontal direction will be ensured.

2. A triangular wall block having a long

vertical base side, a flattened vertical apex and two vertical ends between the long side and the flattened apex,—the bottom edge of the long side and the top edge of said long side midway between their ends each having a central registration device and the bottom and top edges of the flattened apex side each also having registration devices whereby when the blocks are superposed the vertical side edges of the blocks in one course must accurately stagger in a horizontal direction with respect to the vertical edges of the blocks in the course above and below it and form uniform cracks between the vertical edges at the face of the blocks.

In testimony whereof I affix my signature.

ADAM C. OESTERLA.