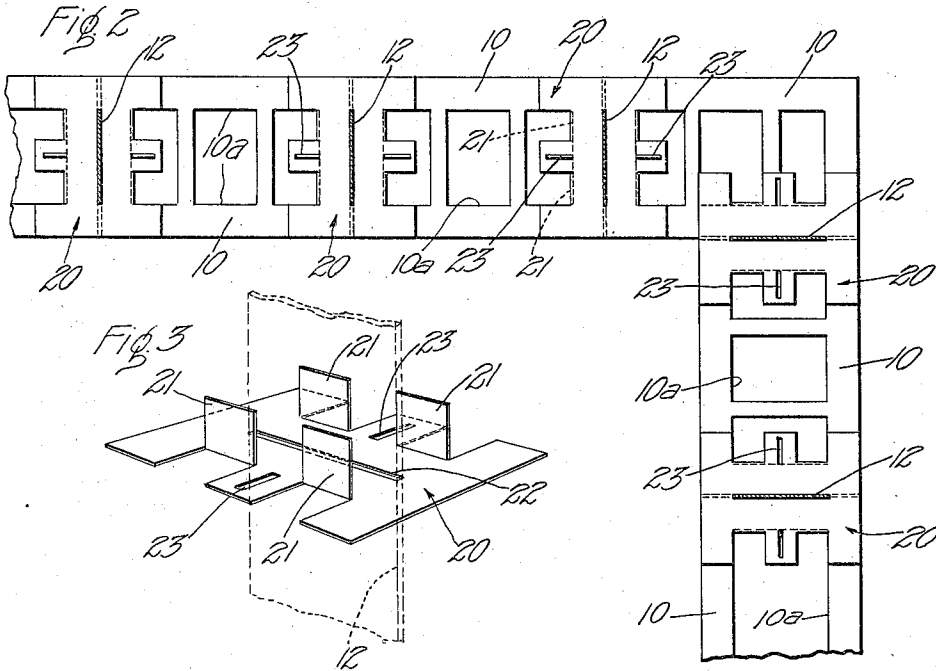
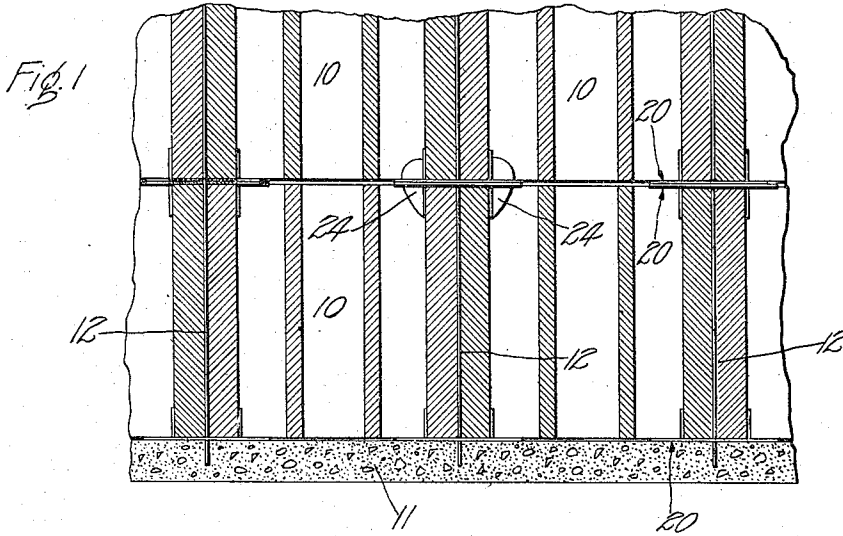


A. W. DOWE.
HOLLOW TILE STRUCTURE.
APPLICATION FILED SEPT. 8, 1914.

1,158,653.

Patented Nov. 2, 1915.



Witnesses
J. L. Brown
P. A. Christiance

Inventor
Arthur W. Dowe
by James T. Barkley
his Attorney.

UNITED STATES PATENT OFFICE.

ARTHUR W. DOWE, OF LOS ANGELES, CALIFORNIA.

HOLLOW-TILE STRUCTURE.

1,158,653.

Specification of Letters Patent.

Patented Nov. 2, 1915.

Application filed September 8, 1914. Serial No. 860,786.

To all whom it may concern:

Be it known that I, ARTHUR W. DOWE, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles, State of California, have invented new and useful Improvements in Hollow-Tile Structures, of which the following is a specification.

This invention relates to a wall or other structure of hollow tile; and the invention consists fundamentally of the provision of a novel and effective means of binding together hollow tile blocks in substantial and permanent form without the use of mortar or any cementitious substance.

There are many objects of my invention, and many advantages; a primary object may be described as being the provision of binding means for securely holding a hollow tile wall or other structure together, in such form that the hollow tile blocks and the holding means may be easily and quickly assembled.

Another object is to provide a mechanism which is inexpensive to manufacture and to assemble; to make the binding or holding means invisible when the wall is finished; to prevent displacement of any individual block; and also to prevent lateral bending of the wall in a vertical direction.

The specific construction and the particular advantages of my invention are explained in the following specification, and I have shown preferred forms of my invention in the accompanying drawings, in which:

Figure 1 is a vertical longitudinal section of a portion of a wall constructed in accordance with my invention, Fig. 2 is a sectional plan showing the same, Fig. 3 is a perspective detail showing the general nature of the tie plate or clip used in my invention.

Referring particularly to the drawings, the numeral 10 may designate hollow tile blocks, or other blocks of similar nature, which are laid in horizontal courses and vertical tiers on any suitable foundation, as illustrated at 11. Between each of the adjacent vertical tiers of blocks I place a stud strip 12, which is preferably a thin flat metallic strip of iron held closely between adjacent tiers. The strip is thin enough so that there is no appreciable opening between adjacent vertical tiers of blocks. In forming my improved structure, these vertical stud strips are first placed in position and

their upper ends are held by any suitable temporary means, properly spaced apart in vertical position. These stud strips thus become guides for the placement of the hollow blocks 10.

Between the adjacent horizontal courses of hollow blocks I string my tie clips 20 over the stud strips 12. These tie clips are preferably formed, as shown in Fig. 3, from a thin flat sheet of metal, preferably thin sheet iron, with vertically projecting tongues 21, with an aperture 22 for stringing over stud strip and with apertures 23 for the reception of wedges 24, if desired. The distance between the opposite tongues 21 is such that these tongues will enter the hollow interiors of the hollow blocks and will bear against their interior faces as is clearly shown in Figs. 1 and 2, drawing the blocks together and drawing them tightly against the stud strips 12. Although other arrangements may easily be made, I now prefer to place two of my tie clips 20 on each of the stud strips 12 in the space between adjacent horizontal courses of blocks; one of the clips having its tongues 21 projecting downwardly and the other having its tongues 21 projecting upwardly, to engage respectively the lower and upper courses of blocks. The tongues 21 are so spaced that their outer edges bear against the side faces 10^a of the interiors of the hollow blocks, so that the blocks are thus prevented from transverse relative movement—relative both to the stud strips 12 and to the adjacent block which is tied by the same clip. If desired, wedges 24 may be inserted through the apertures 23 in the clips and driven home with their bearing faces against the inner surfaces of the adjacent blocks 10 of the courses immediately above and below, as shown in Fig. 1; thus drawing the adjacent blocks more closely and tightly together. In Fig. 1 I have shown two wedges in the same clip; but it is only necessary to use one wedge on one side of each clip.

The wall structure is continued as high as desired and the top of the wall may be finished off in any preferred manner. It will be particularly noted that there are no metallic parts projecting on either face of the wall and that the tile blocks therefore offer a smooth and uninterrupted surface for plastering or other finishing.

From the foregoing description the pri-

mary features of my invention may be readily seen. It is one of the essential advantages of my invention that the thin stud strips 12 are held tightly in vertical straight positions so that they become in effect stiffeners of great strength for resistance to lateral bending of the wall in a vertical direction. In fact, it is practically impossible to bend my wall without the actual rupture or crumpling of the vertical stud strips, which can not be accomplished unless the wall is practically demolished. The tie clips not only prevent the lateral and longitudinal displacement of any individual block, but they also tie all of the blocks to the various stud strips, so that the wall as a whole is held securely together in all of its constituent parts. The ease and rapidity with which my wall structure can be assembled is readily apparent.

My invention consists in the features herein described; but I do not limit myself to the particulars and specific points of construction contained in the specific form herein described. There are various detail constructions which may be varied without exceeding the scope of my invention, which comprises fundamentally the use in combination of the vertical stud strips and the tie clips tying each of the hollow blocks to the stud strips and holding the stud strips tightly in true position between the blocks, the blocks thus holding the stud strips in such a position that the stud strips become effective stiffeners against transverse displacement of the wall.

Having described my invention, I claim:

1. In a wall structure of the character described, comprising blocks laid in vertical tiers and horizontal courses, the combination of vertical stud strips between adjacent tiers, and tie clips strung on said stud strips between adjacent courses, said clips embodying each a flat thin horizontal plate engaging portions of each of the four adjacent blocks and having vertically projecting tongues engaging each of said adjacent blocks to prevent their relative movement both transversely and longitudinally of the block formed wall.

2. In a wall structure of the character described, comprising hollow blocks laid in vertical tiers and horizontal courses, the combination of vertical stud strips between adjacent tiers, tie clips strung on said stud strips between adjacent courses and engaging each of the four adjacent blocks to prevent movement thereof both longitudinally and transversely of the wall, and wedges bearing against the tie clips and bearing against the inner surfaces of the hollow blocks to draw the blocks together.

3. In a wall structure of the character described, comprising hollow blocks laid in vertical tiers and horizontal courses, the

combination of vertical stud strips between adjacent tiers, tie clips strung on said stud strips between adjacent courses, said clips embodying each a flat thin horizontal plate extending over portions of adjacent blocks and having vertically projecting tongues engaging the interiors of the adjacent hollow blocks to prevent their relative movement transversely and longitudinally of the block formed wall, and wedges bearing against the tie clips and bearing against the inner surfaces of the hollow blocks to draw the blocks together.

4. In a wall structure of the character described, comprising hollow blocks laid in vertical tiers and horizontal courses, the combination of vertical stud strips between adjacent tiers, tie clips strung on said stud strips between adjacent courses and engaging adjacent blocks to prevent movement thereof longitudinally and transversely of the wall, and wedges passed through apertures in the clips and bearing against the inner surfaces of the blocks of the horizontal courses immediately above and below the respective clips.

5. In a wall structure of the character described, comprising hollow blocks laid in vertical tiers and horizontal courses, the combination of vertical stud strips between adjacent tiers, tie clips strung on said stud strips between adjacent courses, said clips embodying each a flat thin horizontal plate extending over portions of adjacent blocks and having vertically projecting tongues engaging the interiors of the adjacent hollow blocks to prevent their relative movement transversely and longitudinally of the block formed wall, and wedges passed through apertures in the clips and bearing against the inner surfaces of the blocks of the horizontal courses immediately above and below the respective clips.

6. In a wall structure of the character described, comprising hollow blocks laid in vertical tiers and horizontal courses, the combination of vertical stud strips between adjacent tiers, and tie clips strung on said strips between adjacent courses, said clips having upwardly and downwardly projecting tongues which engage the interior walls of each of the four adjacent blocks to prevent both longitudinal and transverse movement of the blocks.

7. In a wall structure of the character described, comprising hollow blocks laid in vertical tiers and horizontal courses, the combination of vertical stud strips between adjacent tiers, and tie clips strung on said strips between adjacent courses, there being between each two adjacent courses two of said clips, one immediately above the other, each of said clips embodying a flat body with an aperture for stringing on the stud strip and tongues projecting verti-

cally, those of the upper clip projecting upwardly and those of the lower clip projecting downwardly into the interiors of each of the four adjacent hollow blocks, engaging said blocks to prevent both longitudinal and transverse movement thereof.

have hereunto subscribed my name this 28th day of August, 1914.

ARTHUR W. DOWE.

Witnesses:

JAMES T. BARKELEW,

F. B. ARMSTRONG.

In witness that I claim the foregoing I

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