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. . W. R. FORBUSH. WALL CONSTRUCTION. APPLICATION FILED DEC. 11, 1920.

1,420,478.







Inventor. Walter R. Forbush by Heard Smith& Jennant. Attys.

UNITED STATES PATENT OFFICE.

WALTER R. FORBUSH, OF NEWTON, MASSACHUSETTS.

WALL CONSTRUCTION.

1,420,478.

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To all whom it may concern:

Be it known that I, WALTER R. FORBUSH, a citizen of the United States, and resident of Newton, county of Middlesex, State of

- Massachusetts, have invented an Improvement in Wall Constructions, of which the passages leading from its inner face into a characters on the drawing representing like 10 parts.
 - This invention relates to wall construction comprising two tiers of blocks of cement or other plastic substance which are arranged to form an air space between them, the blocks
- 15 of the tiers being bound together by cement which fills aligned grooves in the meeting faces of the blocks and the tiers being connected together by suitable tie members.
- One of the objects of the invention is to provide a wall construction of this type in 20 which the different courses of blocks in each tier are connected solely by the cement binding filling the aligned grooves and another object of the invention is to provide a wall
- 25 construction having blocks of relatively simple formation. Other objects of the invention are to provide improved wall construction having features which will be more fully hereinafter set forth.
- In the drawings wherein I have illus-30 trated a selected embodiment of the invention, Fig. 1 is a perspective view of a portion of a wall embodying my invention.
 - Fig. 2 is a plan view of Fig. 1.
- Fig. 3 is a perspective view of one of the 35 blocks.

Fig. 4 is a section on the line 4-4 Fig. 5. Fig. 5 is a section on the line 5-5 Fig. 4. My improved wall is composed of blocks

40 1 of cement or cementitious substance which are laid up to form two tiers 3 that are separated from each other to form between them an air space 4.

- 45 it is thicker transversely at the ends and at its central part as indicated at 6 and 7 and it is also formed with a longitudinally extending groove 8 in its top face and a similar groove 9 in its bottom face. Each block
- 50 also has a vertical passage which communicates with the grooves 8 and 9. There may be one or more such passages in each block, and these passages may be located at dif-
- 10 in the form of a groove in each end face, such grouting flowing through these pas-

and also another vertical passage in the form of a hole 12 which is situated in the thickened portion 7, both passages 10 and 12 communicating with both grooves 8 and 9. 60

Each block also has one or more transverse following description in connection with the vertical passage and which is for the pur-accompanying drawing is a specification, like pose of receiving a tie member 14 or 16. characters on the drawing representing like I have herein shown each block as having 65 such a transverse tie-receiving passage $1\overline{1}$ in each end face and another transverse tiereceiving passage 13 leading into the hole 8. The outer face 5 of each block will pref-70 erably be plain.

In building a wall of blocks having this construction said blocks are laid up in two tiers that are separated from each other as shown in Figs. 1 and 2 and when each course of blocks is laid the grooves 9 in the bottom 75 of said blocks will be in alignment with the grooves 8 in the top edges of the blocks beneath.

As each course is laid up the corresponding courses of the two tiers are tied together 80 by tie members 14 which are laid in as many of the transverse passages as desired. These tie members are in the form of rods having their ends 15 bent at right angles to the body of the rods. When the blocks of any 85 course are being laid the tie members 15 will be placed in the grooves or passages 11 with the arms or ends 15 of the tie rods occupying the vertical grooves 10 and when the blocks are positioned with their ends 90 in abutting relation the tie members will be confined in the aligned grooves 10 and 11 thus operating to tie the tiers together. In addition to these tie members 14 other similar tie members 16 may be used if de- 95 sired for tying together the opposing blocks in the tiers midway of their length. These tie members 16 extend through the passages 13 and have their ends 17 occupying the holes Each block 1 is preferably shaped so that 12. The passage 13 is of a sufficient size to 100 receive the bent end 17 of the member 16. So that these tie members can be inserted by turning them into a horizontal position and passing the bent ends 17 thereof through the passages 13 and then swinging said tie 105 members into a vertical position with the bent ends in the holes 12. The blocks of the various courses are laid up without mortar or cement and after any course has been ferent parts of the block. In the construc- laid then a grouting or thin cement will be 110 55 tion shown each block has a vertical passage poured into the vertical passages 12 and 10,

sages into the horizontal aligned grooves groove in both its top face and its bottom 8 and 9 and filling the latter. This grout-ing when set thoroughly binds the blocks together and at the same time encloses the bent ends of the tie members that occupy the vertical passages thus anchoring said tie members firmly into place.

blocks of each tier are bound together solely 10 by the cement or grouting which is poured into the vertical passages thus obviating the necessity of using a trowel in laying up the wall.

Furthermore the two tiers are connected 15 together solely by metallic tie members thus making it impossible for moisture to work from one tier to the other across the air space.

I claim:

20 of superposed blocks each block having a

face situated entirely within the edges of the block and which aligns with a corresponding groove in the meeting face of an ad- 25 jacent block and forms therewith a concealed cement-receiving channel, each block also having a vertical passage extending from In a wall embodying my invention the its top face and leading into said channel, cementitious binding material filling the 30 concealed cement-receiving channels and the vertical passages, each block also having a transverse passage leading from its inner face into a vertical passage, and metallic tie members connecting said tiers and located 35 in the transverse passages, the ends of each tie member being bent into a position at right angles to the body thereof and occupying a vertical passage.

In testimony whereof, I have signed my 40 I claim: A wall construction comprising two tiers name to this specification. WALTER R. FORBUSH.