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BUILDING BLOCK AND WALL STRUCTURE

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Fig. 1.

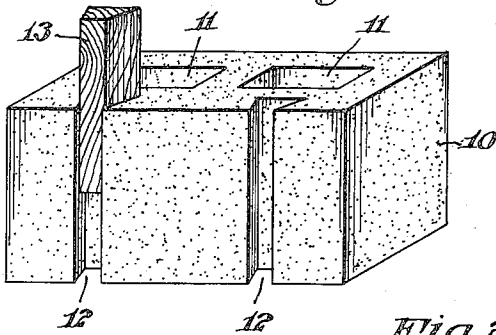


Fig. 4.

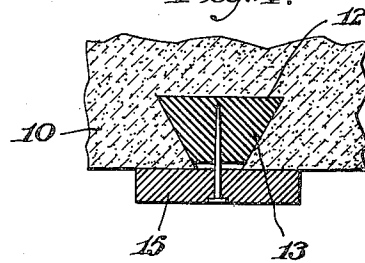


Fig. 2.

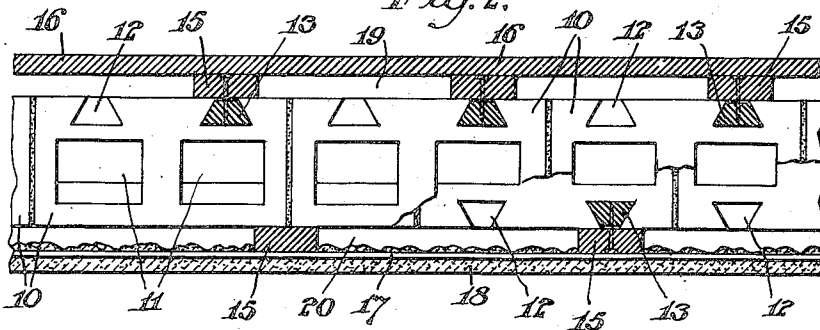


Fig. 3.

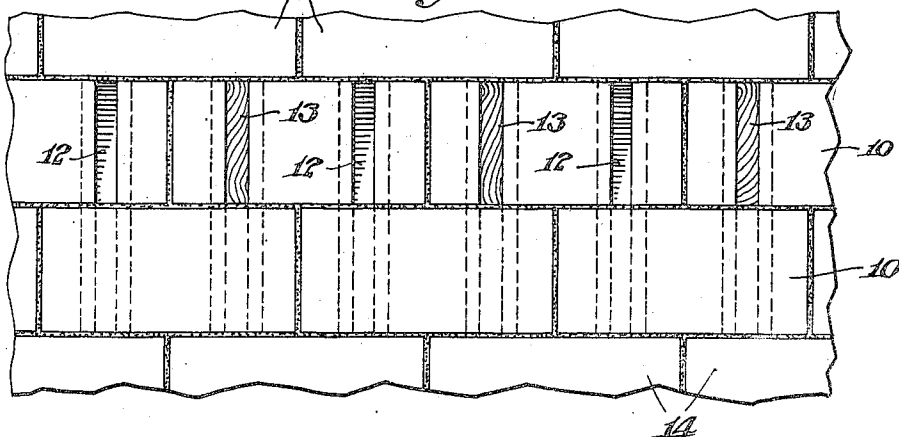
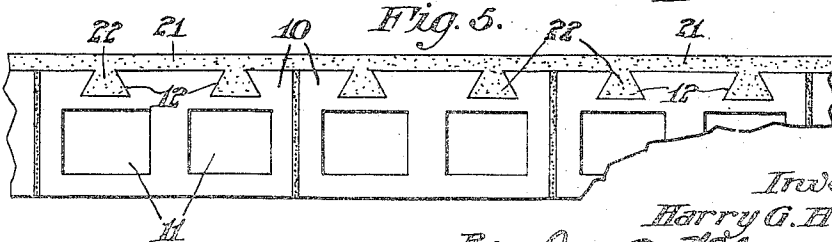


Fig. 5.



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BUILDING BLOCK AND WALL STRUCTURE

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3 Claims. (Cl. 72-41)

This invention relates to building blocks and to wall structures made therefrom, and it relates more particularly to building blocks molded from concrete or the like, and to a wall in which such building blocks are incorporated, which wall will be relatively inexpensive to erect, and when erected will be proof against the passage there-through of moisture, and will be free from sweating. The invention also contemplates a use of the building blocks whereby plaster or stucco can be applied thereto without likelihood of the same subsequently becoming detached.

Heretofore large numbers of building blocks have been made and used having a concrete aggregate consisting principally of cement and cinders, or in some instances of cement and slag, and one of the advantages claimed for such blocks, particularly where the proportionate quantity of cement used was low, was that nails could be driven into the blocks for the purpose of attaching the furring strips and trim.

In many instances, where such so-called "cinder blocks" were used, the plaster was applied directly to one surface thereof, and in other instances wood or metal sheathing was applied to the external surfaces of the wall, either by nailing the same directly to the blocks, or by first nailing furring strips directly to the blocks and then nailing the sheathing to the furring strips.

It has been found by experience, however, that walls so constructed have not always proved satisfactory, in that where the cement content of the blocks was low enough to obtain the desired "nailability" of the blocks, the blocks were relatively low in crushing strength and could not be used in many situations where a molded concrete block would otherwise be desirable.

It has also been found that, by reason of the porous character of such building blocks, the steel nails used for applying the furring strips or trim would quickly rust through, particularly at or near the surfaces of the blocks, permitting the attached parts to fall away.

It has also been found that where molded concrete blocks were used, and plaster or stucco was applied directly to the surfaces thereof, the wall so constructed was very prone to sweat when there was a substantial difference in temperature between the two sides thereof. Furthermore, in many instances the plaster or stucco would separate from the wall over considerable areas, either by reason of the inherent weakness of the concrete aggregate from which the blocks were made, or by reason of moisture passing through the com-

ponent parts of the wall and acting to destroy the adhesion.

The object, therefore, of the present invention is to provide building blocks molded from concrete or the like, and a wall structure embodying such blocks, so constructed and arranged that furring strips may be securely, permanently, and rigidly attached thereto, whereby plaster or sheathing may be applied to the wall without danger of subsequent separation therefrom.

A further object of the invention is to provide building blocks of a novel character which, when incorporated in a wall, will permit the attachment of the furring strips at a variety of center distances, as may be required in a particular installation.

A further object of the invention is to provide building blocks having means for attaching furring strips thereto, which may be used without requiring a great deal of thought on the part of the erector of the wall.

A further object of the invention is to provide building blocks of such character that when plaster or stucco is applied directly to the surfaces of a wall constructed of such blocks, the same will be securely keyed to the surface of the wall.

A further object of the invention is to provide a building block of the character aforesaid, which may be readily made in existing block molding machines without requiring any substantial change therein.

The nature and characteristic features of the invention will be more readily understood from the following description, taken in connection with the accompanying drawing forming part hereof, in which:

Figure 1 is a perspective view of a building block embodying the main features of the present invention, one of the nailing pieces being shown in connection therewith in an intermediate position, while being inserted therein;

Fig. 2 is a horizontal section of a wall embodying the main features of the present invention, illustrating the arrangement of the blocks in one course, and partly broken away at one portion to show the arrangement in another course;

Fig. 3 is an elevational view of a portion of the wall shown in Fig. 2, as the same appears before the furring strips are attached thereto;

Fig. 4 is a fragmentary sectional view illustrating a detail of the construction; and—

Fig. 5 is a horizontal section of a portion of a

wall illustrating the application of plaster or stucco directly to one surface thereof.

Referring now more particularly to Fig. 1 of the drawing, there is there shown in perspective a building block 10, which may be made of any desired concrete aggregate. The block 10 is preferably made in the standard size of sixteen inches in length, eight inches in height, and eight inches in depth or thickness. The block 10 is also preferably provided with the usual air chambers 11 extending from top to bottom.

On the front face of the block 10 there are provided two dovetail slots 12, also extending from top to bottom of the block. One of these slots 12 is positioned at approximately one-quarter the length of the block from one end thereof, and the other slot is positioned at approximately one-quarter the length of the block from the other end thereof, whereby the slots will be separated from each other a distance of approximately one-half the length of the block.

In conjunction with the blocks 10 of this special form, there are provided insert pieces 13, preferably made of wood or other suitable material into which nails may be driven, which are shaped complementally to the dovetail slots 12, and are of a length to fill said slots from top to bottom. These nailing pieces 13 are made so that they may be readily slid into the dovetail slots 12, as hereinafter set forth.

It should be noted, however, that the nailing pieces 13 are of a thickness slightly less than the depth of the dovetail slots 12, and are so dimensioned that when said nailing pieces are positioned in the slots, the outer faces thereof will be spaced slightly inwardly from the surface of the wall. This arrangement is provided so that when furring strips are nailed to the insert pieces, as the nails are driven into place the inclined side faces of the insert pieces 13 will be drawn tightly against the inclined side faces of the dovetail slots 12, and at the same time the furring strips will be drawn tightly against the surface of the wall (see Fig. 4).

Ordinarily, in the use of the blocks 10 in the building of a wall, the same will be used only in certain courses, as shown for example in Fig. 3, blocks 14 of the ordinary type being used in the other courses, and in the laying up of the wall, whenever it is desired to insert a course in which the nailing insert pieces 13 are to be used, the special blocks 10 of the present invention will be laid in place in the usual manner, breaking joints with the course immediately beneath.

After a course of special blocks has been laid, and before the next succeeding course is placed thereon, any one, such as an apprentice or non-skilled laborer, can quickly drop the nailing pieces 13 into the dovetail slots 12 at the desired center distances, after which said nailing pieces will be securely confined in said slots by the laying up in the wall of the next superposed course of blocks.

In a preferred type of wall construction, shown in Figs. 2 and 3 of the drawing, the special blocks 10 are laid up in the wall with the dovetail slots 12 in certain courses disposed on one face of the wall, and in other courses disposed on the opposite face of the wall. When this is done the furring strips 15 may be secured to both faces of the wall, by being nailed to the insert pieces 13 which are mounted in certain of the dovetail slots 12 on each face as desired.

The furring strips 15 applied to the outer face

of the wall may be employed for the attachment thereto of external sheathing 16, which may be made of wood or metal as desired. It will be noted that the spacing of the insert pieces 13 on this face of the wall will depend upon the relative stiffness of the sheathing material employed, and may be varied to suit the circumstances.

On the inner face of the wall the furring strips 15 may be attached in like manner, and to these furring strips lathing 17 of the ordinary type, either of wood or metal, may be secured, and the plaster 18 then applied to the lathing.

It will be noted that in this type of wall dead air spaces 19 are provided between the sheathing 16 and the outer faces of the blocks 10, that the blocks themselves are provided with the usual air chambers 11, and that there is another dead air space 20 between the inner faces of the blocks and the plaster 18, so that the wall will be exceedingly well insulated against the passage of heat, and virtually impervious to the passage of moisture.

It may here be observed that where blocks of the standard sixteen-inch length are used, and the dovetail slots 12 are positioned as aforesaid at the quarter distances from the ends, the nailing pieces 13 may be inserted at distances apart which are any multiple of eight inches. For example, in the course which is adjacent the floor of a building, the nailing pieces may be inserted in every dovetail slot 12, thereby providing means for attaching the baseboard of the room trim at a distance of every eight inches.

On the other hand, if the wall is to be covered by any of the usual types of wallboard (not shown) now available and in common use, which ordinarily come in forty-eight inch widths, it is only necessary to watch that the nailing pieces 13 are positioned to come opposite the places where the vertical joints of the wallboard are to occur, and at as many intervening places as may be deemed necessary, depending in each instance upon the relative stiffness of the wallboard employed.

In Fig. 5 of the drawing there is illustrated another manner of use of the special blocks 10, namely, where it is desired to apply plaster or stucco 21 directly to a surface of the wall. In this instance the special blocks are laid up in the wall at as many places as desired, with the dovetail slots 12 therein disposed on the face to which the plaster is to be applied, and portions of the plaster will then be forced into said slots, as at 22, to form an effective key to insure the retention of the plaster on the face of the wall.

It will be noted that the special blocks employed may be readily molded in the ordinary machines at present in use for molding concrete blocks, as the members required in the molds for forming the dovetail slots 12 on one face of the block 10 may be withdrawn from the molded block simultaneously with the withdrawal of the members which form the air chambers 11 in the block.

I claim:

1. A wall structure consisting of a series of superposed courses of building blocks including generally prismatic blocks and special prismatic blocks disposed in courses therein, said blocks having air chambers extending from the top to the bottom thereof, said special blocks having dovetail slots on one face thereof also extending from the top to the bottom of each block, and nailing pieces loosely inserted in certain of said

dovetail slots, said nailing pieces extending from the top to the special bottom of the blocks and being confined in position by the prismatic blocks in the courses above and below the special blocks, each of said special blocks being provided with two of said dovetail slots, one of said dovetail slots being positioned at approximately one-quarter the length of the block from one end thereof, and the other dovetail slot being positioned at approximately one-quarter the length of the block from the other end thereof, and members positioned on the face of the wall nailed to said nailing pieces, said nailing pieces being of less thickness than the depth of the dovetail slots in which they are positioned whereby the members nailed to said nailing pieces may be drawn up tightly against the adjacent exposed faces of the blocks.

2. A wall structure consisting of a series of superposed courses of building blocks including generally prismatic blocks and special prismatic blocks disposed therein in courses, said blocks having air chambers extending from the top to the bottom thereof, said special blocks having dovetail slots on one face thereof also extending from the top to the bottom of each block, and nailing pieces loosely inserted in certain of said dovetail slots, said nailing pieces extending from the top to the bottom of the special blocks and being confined in position by the prismatic blocks in the courses above and below the special blocks, each of said special blocks being provided with

two of said dovetail slots, one of said dovetail slots being positioned at approximately one-quarter the length of the block from one end thereof, and the other dovetail slot being positioned at approximately one-quarter the length of the block from the other end thereof.

3. A wall structure consisting of a series of superposed courses of building blocks including generally prismatic blocks and special prismatic blocks disposed in courses therein, said special blocks having air chambers extending from the top to the bottom thereof, said special blocks having dovetail slots on one face thereof also extending from the top to the bottom of each block, and nailing pieces loosely inserted in certain of said dovetail slots, said nailing pieces extending from the top to the bottom of the special blocks and being confined in position by the prismatic blocks in the courses above and below the special blocks; each of said special blocks being provided with two of said dovetail slots, one of said dovetail slots being positioned at approximately one-quarter the length of the block from one end thereof, and the other dovetail slot being positioned at approximately one-quarter the length of the block from the other end thereof, said special blocks being arranged in the wall with the dovetail slots of certain blocks disposed on one face of the wall and the dovetail slots of other blocks disposed on the other face of the wall.

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