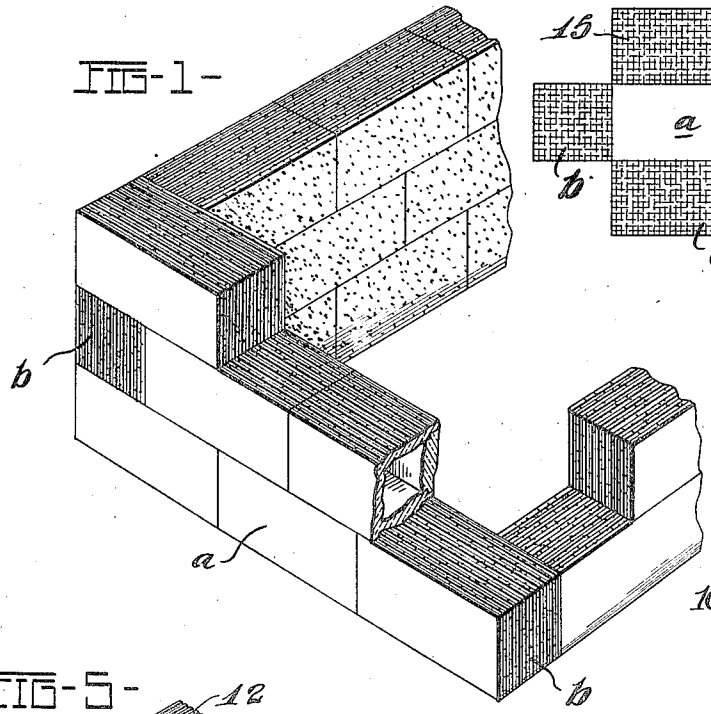
April 19, 1938. F. O. ANDEREGG 2,114,732

BUILDING BLOCK

Original Filed Aug. 8, 1933

FIG-1-



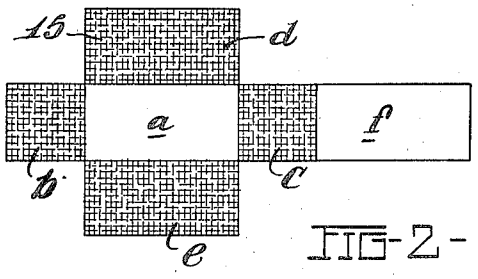


FIG-2-

FIG.7.

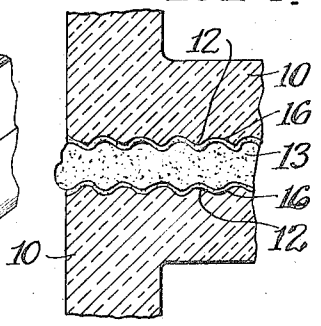
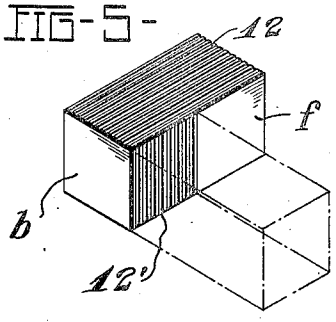


FIG-5-



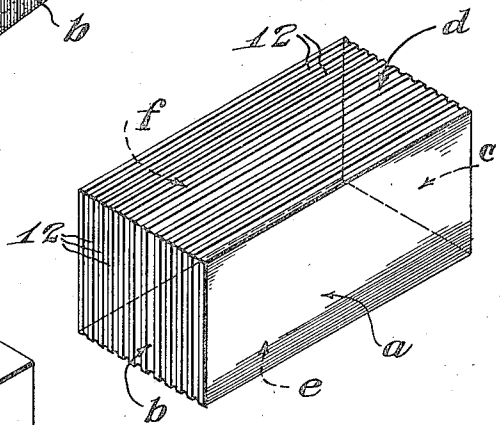


FIG-3-

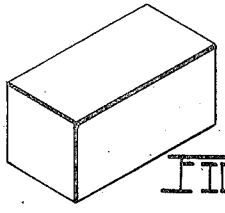


FIG-6-

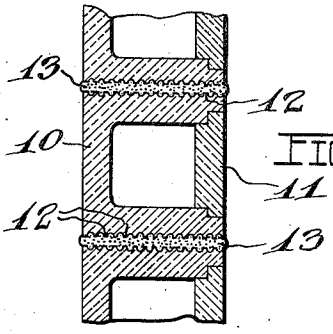


FIG-4-

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UNITED STATES PATENT OFFICE

2,114,732

BUILDING BLOCK

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Application August 8, 1933, Serial No. 684,216
Renewed October 4, 1937

6 Claims. (Cl. 72—41)

My invention relates to building blocks and to walls or structures built therewith. The invention in its preferred form relates to hollow building blocks made of glass or similar material.

An object of the invention is to produce a building block of the character indicated which when built into a wall is set in mortar and is so designed as to reduce the opportunity for moisture to penetrate through the wall. I have observed that moisture penetration through an ordinary brick wall usually takes place between the mortar and the brick through a capillary network produced during the shrinking of the mortar, which shrinkage occurs largely while the mortar is still plastic. An aim of the present invention is to overcome this objection by the provision of corrugations or grooves on the surfaces of the building block which are set in mortar, such corrugations being constructed and arranged as hereinafter set forth in a manner to prevent or reduce to a large extent the moisture penetration.

A further object of the invention is to provide means for causing an effective bond between the building block and the mortar or cement in which it is laid, particularly when the blocks are made of glass or like material to which mortar will not readily adhere. For this purpose, the blocks may be given a preliminary coating of neat-cement, slurry or other suitable material applied to the surfaces which are to be embedded in the mortar, said coating providing a surface to which the mortar will readily and firmly adhere.

A further object of the invention is to obtain novel and pleasing color effects or tinting by the application of coloring material to the exterior surfaces of the block which are embedded in the cement, the color being applied, for example, in the form of cement-paint or by adding color pigments to the neat-cement.

Other objects of the invention will appear hereinafter.

In the accompanying drawing:

Fig. 1 is a fragmentary perspective view showing an uncompleted wall or structure being built with blocks, embodying my invention.

Fig. 2 is a development of a building block.

Fig. 3 is a perspective view of a building block.

Fig. 4 is a sectional elevation showing a number of blocks built into a wall.

Fig. 5 is a perspective view showing a modified form of block particularly adapted for use as a corner block.

Fig. 6 is a perspective view of a block having the surface corrugations omitted.

Fig. 7 is a sectional detail on an enlarged scale, showing particularly the bonding material between adjoining blocks.

As shown on the drawing, the blocks may be hollow and of rectangular form, and are preferably made of glass or similar transparent material.

The block may comprise a body 10 (Fig. 4) made in a single piece and a separately formed cover plate or piece 11 cemented or welded thereto. Each block has a vertical front face *a*, vertical end surfaces *b* and *c*, horizontal top and bottom surfaces *d* and *e*, respectively, and a vertical rear surface *f*. When the blocks are built into a wall as shown in Fig. 1, the faces *a*, which are preferably plain and smooth, form the face or outer surface of the wall.

The top, bottom and end surfaces are corrugated or formed with narrow beads or ribs 12 alternating with narrow grooves. These corrugations or ribs are parallel and extend lengthwise along the upper and lower surfaces of the block, and vertically on the end surfaces of the block. Thus the corrugations are provided on those surfaces which are embedded in or brought in contact with the mortar 13 or other bonding material when the blocks are built into a wall. The corrugations are all arranged to extend in a direction parallel with the exposed surfaces of the block and, therefore, at right angles to the normal direction for the passage of moisture through the wall.

These corrugations are primarily for the purpose of preventing the usual penetration of moisture which occurs in walls comprising bricks or blocks set in mortar. With the usual or conventional constructions, there is more or less shrinkage of the mortar as it dries out, causing separation between the mortar and the surface to which it is applied. This permits moisture to penetrate the wall through the capillary spaces produced by such shrinkage. The effect of the ribs or beads 12 is to compress the mortar which is in contact with them so that the shrinkage is largely produced in the mortar between these ridges. This results in a series of parallel lines of intimate contact between the mortar and the block, thus offering a series of obstructions to the passage of moisture between the block and the mortar.

The ribs 12 and the grooves therebetween are preferably quite narrow. I have found that when the ribs are separated by a distance ranging from $\frac{1}{32}$ to $\frac{1}{16}$ of an inch, satisfactory results are obtained, the passage of moisture being thereby effectively prevented. The provision of these ribs 12 is of special value in connection with building blocks made of glass or other non-porous material which permit the passage of moisture to a greater extent than occurs with brick and like materials which are more or less porous and absorb the moisture.

A difficulty which has been experienced in the use of building blocks made of glass or other material having a hard smooth or glazed surface is

due to the fact that the mortar will not adhere to such surface and make a good bond. To overcome this difficulty, the surfaces *b*, *c*, *d* and *e* to which the motar is applied are given a coating **16** (Fig. 7) of neat-cement, slurry, cement-paint or the like. This coating which is applied and dried on the blocks before they are built into the wall, provides a surface to which the mortar will adhere, thereby greatly improving the bond between the block and the mortar. Such preliminary coating also avoids trapping of air bubbles between the block and the mortar and, moreover, prevents slipping of the blocks on the mortar when the blocks are being laid.

For decorative purposes, the surfaces which are to come in contact with the mortar, particularly the upper and lower surfaces *d* and *e* and the end surfaces *b* and *c*, may be painted or otherwise colored. By way of example, these surfaces are shown in Fig. 2 as having a coat of yellow coloring material **15**, although any other desired color or colors might be used. Such coloring may be provided by applying to said surfaces a cement-paint or by adding appropriate color pigments to the neat-cement. In this manner a great variety of colors, and their tints and shades, may be obtained. Other methods of coloring said surfaces may be resorted to. The outer surface *a* which is exposed to view is preferably left plain.

This color which is transmitted through the transparent walls of the block and refracted and reflected by the glass, gives a very pleasing appearance to the wall. By such method of coloring, very interesting architectural effects are obtained. A characteristic brilliancy is obtained, which is impossible with methods heretofore employed, consisting of the application of color to the exterior exposed surface of the block or to the inner surfaces of the hollow block.

Although I have referred to the blocks as being made of transparent glass, they may be made of semi-transparent or translucent glass or like material which also lends itself to the attainment of artistic and desirable coloring effects when the coloring material is applied in the manner above described.

Fig. 5 illustrates a block particularly adapted for use as a corner block in building a wall. In this form of block, the end surface *b* is left plain, the corrugations **12** being omitted from said surface. Thus when the block is built into a corner of a wall, the end face *b* which is exposed to view will match with the adjoining plain surfaces *a*. The block is also provided with vertical corrugations **12'** on its inner surface *f*. If desired, said corrugations may cover only that portion of the surface *f* which is opposite the adjoining end of the block which abuts thereagainst as shown by broken lines in Fig. 5.

Fig. 6 shows a modified form of block having the corrugations **12** omitted entirely. This block may be made of glass and has its top, bottom and end surfaces coated with a slurry or the like as heretofore described for the purpose of providing a good bond between the block and the mortar. Said surfaces may also be colored, if desired, in the manner heretofore described.

Modifications may be resorted to within the spirit and scope of my invention.

What I claim is:

1. A rectangular building block comprising top, bottom and end surfaces designed to be embedded in mortar when the block is built into a wall, an outer or front exposed surface, the entire said top, bottom and end surfaces consisting of beads or corrugations extending parallel with said outer face of the block, said corrugations being of sufficient fineness to insure a good bond between the block and mortar and to substantially prevent the passage or creeping of moisture across said corrugated surfaces and a coating of material on said corrugated surfaces which will permit mortar to adhere thereto.

2. A building block comprising a front surface designed to be exposed when the block is built into a wall, and surfaces extending at right angles thereto designed to be laid in mortar, said last mentioned surfaces being formed with beads or corrugations extending parallel with said exposed surface, said beads being narrowly spaced apart or arranged at intervals of the order of $\frac{1}{32}$ to $\frac{1}{16}$ of an inch and covering the entire said surfaces which are designed to be laid in mortar, said block consisting of a material having a hard smooth surface, and a coating of material on said corrugated surfaces which will permit mortar to adhere thereto.

3. A building block made of vitreous material, said block having top, bottom and end surfaces adapted to be set in cement, said surfaces consisting of fine ribs or corrugations, and a thin coating of material to which cement will adhere covering said corrugations and thereby providing exposed corrugated surfaces of material to which the cement is to be applied.

4. A building block consisting of a light transmitting material, said block comprising a front face adapted to be exposed when the block is built into a wall, and faces adapted to be embedded in mortar or cement, said embedded faces each consisting of a multiplicity of corrugations, narrowly spaced and extending in a direction parallel with said front face, and a coating of cement slurry covering said corrugated faces and presenting a corrugated surface to contact with the mortar or cement and providing a bond by which the mortar or cement is caused to adhere to said corrugated surfaces when the block is built into a wall, the said coating being colored so that the color is transmitted through the block and gives the latter a colored or tinted appearance when the block is built into a wall.

5. A hollow building block consisting of a light-transmitting material, said block comprising opposed front and rear faces adapted to be exposed when the block is built into a wall, and surfaces adapted to be embedded in mortar or cement, said embedded surfaces being colored so that the color is transmitted through the block and gives the latter a colored or tinted appearance when the block is built into a wall.

6. A hollow glass building block comprising plain front and rear surfaces adapted to be exposed when constituting part of a wall structure and adjoining colored surfaces which, when the block is built into a wall, are embedded therein, said colored surfaces transmitting light through the front and rear surfaces and giving the block a tinted or colored appearance.

FREDERICK O. ANDEREGG.