May 29, 1928. 1,671,279

A. FRIEDLAND

BUILDING CONSTRUCTION

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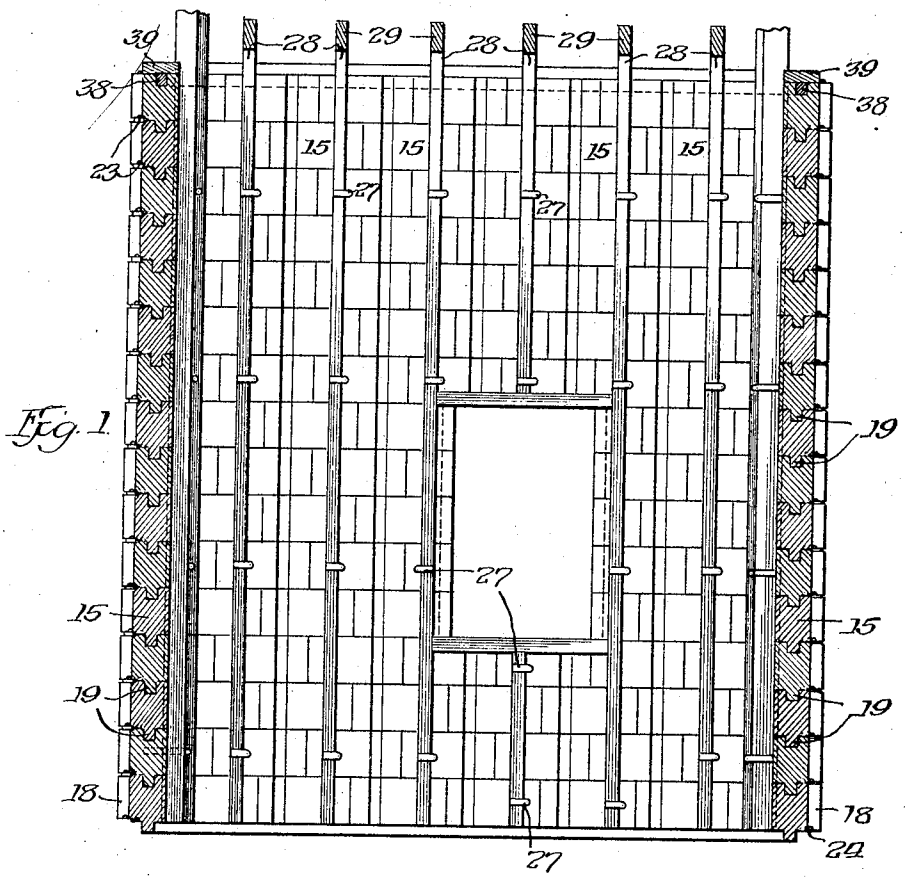
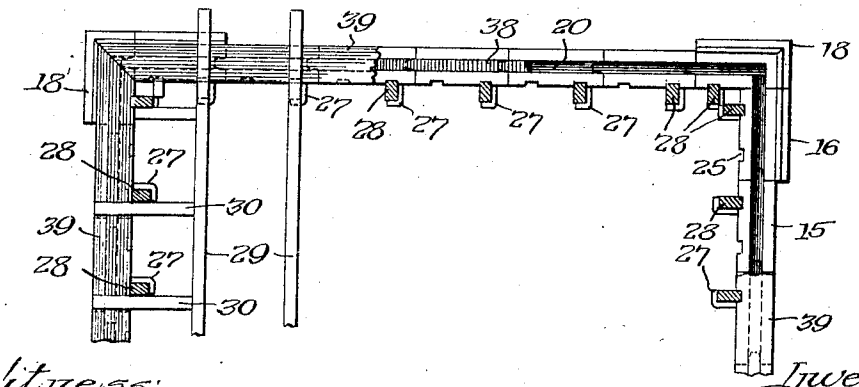


Fig. 1.

Fig. 2.



Witness:
Ed. C. Harris

Inventor
Abraham Friedland
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A. FRIEDLAND

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Fig. 3.

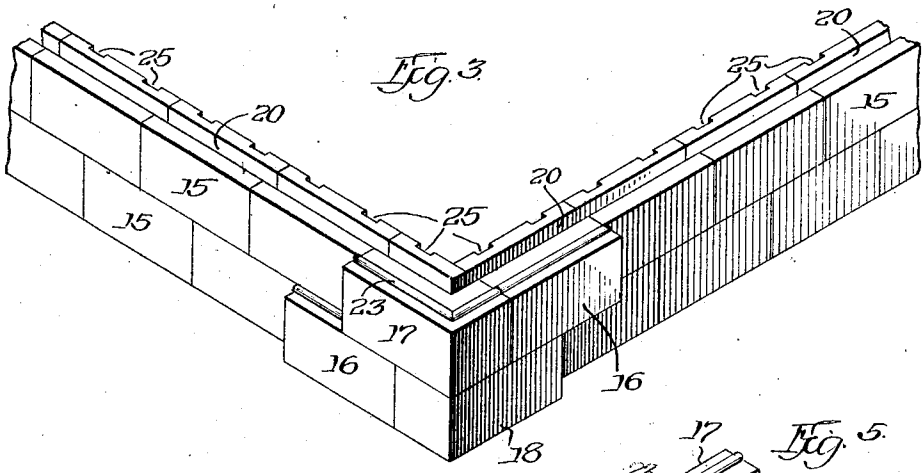


Fig. 4

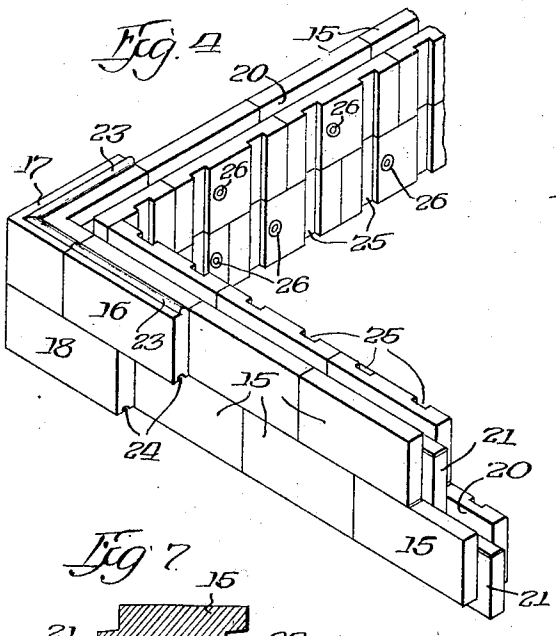


Fig. 5.

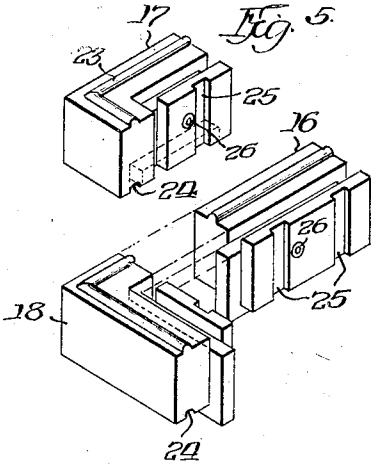


Fig. 6

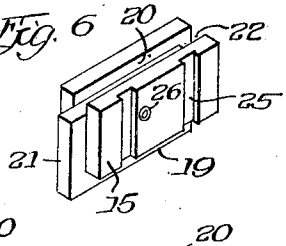
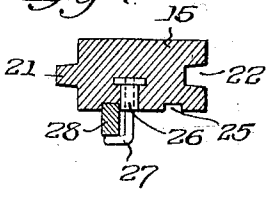


Fig 7



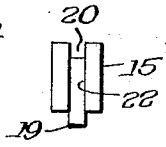


Fig. 8

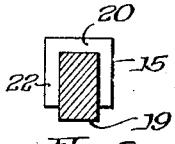


Fig. 9

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Fig. 10

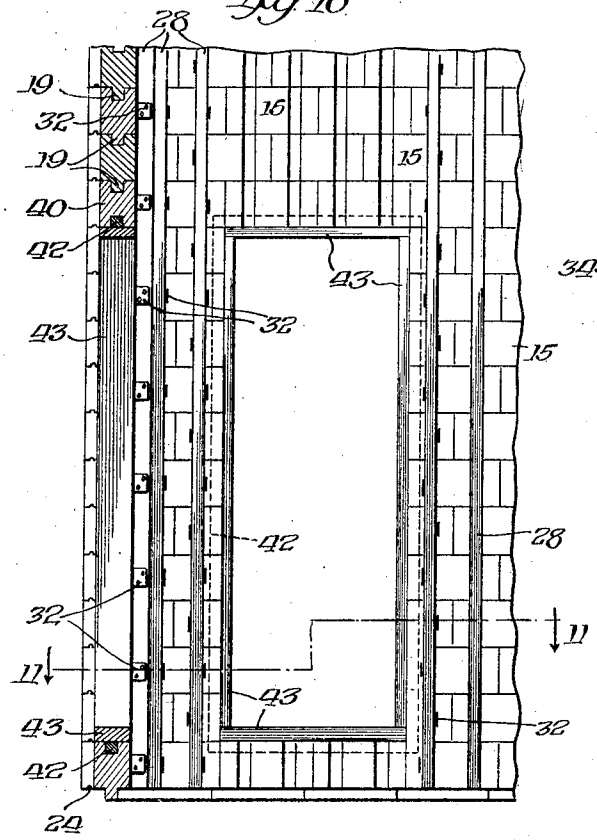
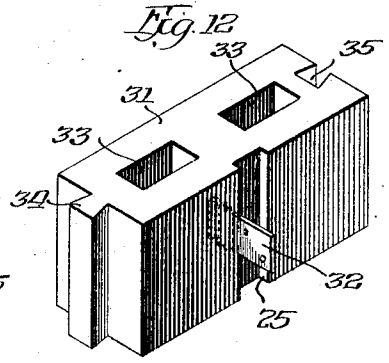


Fig. 12



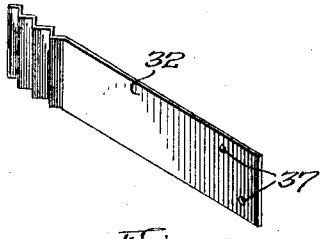


Fig. 13

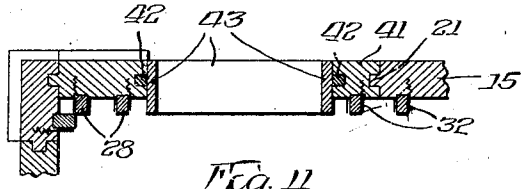


Fig. 11

Witness:

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Atty.

Patented May 29, 1928. 1,671,279

UNITED STATES PATENT OFFICE.

ABRAHAM FRIEDLAND, OF BENTON HARBOR, MICHIGAN.

BUILDING CONSTRUCTION.

Application filed June 2, 1927. Serial No. 195,993.

The invention relates to improvements in building construction, and more particularly to building construction having walls and foundation built of blocks of concrete, cement or any other desired material.

An object of the invention is to provide building blocks which are capable of being laid in their proper positions and interlocked so as to eliminate the necessity of using mortar for holding the blocks in their proper relative positions and which will provide walls impervious to rain, snow, dust and the like.

Another object is to provide simple and economical means for fastening the interior frame-work of the building to the walls and of tying the layers of blocks together vertically.

A further object is to generally improve building blocks and structures of the class described.

With the above and other objects in view, the invention consists in the typical details of construction and in the arrangement and combination of parts hereinafter more fully described and particularly pointed out in the appended claims.

In describing the invention in detail, reference will be had to the accompanying drawings, wherein like characters of reference denote corresponding parts in the several views, and in which;

Fig. 1 is an elevational and sectional view of a typical wall built according to my invention;

Fig. 2 is a plan view of a typical wall and the framing connections fastened thereto;

Figs. 3 and 4 are perspective views of blocks as assembled to form a corner construction;

Fig. 5 is a view indicating the method of assembling and placing the blocks in their proper relative positions at the corner of a building;

Fig. 6 is a perspective view of a typical intermediate block;

Fig. 7 is a section taken along a horizontal plane through a typical intermediate block;

Figs. 8 and 9 are detail views of portions of the typical intermediate blocks;

Fig. 10 is an elevational view showing the details of construction about window and door openings;

Fig. 11 is a sectional view along the line 11—11 of Fig. 10;

Fig. 12 is a perspective view of an alternative form of building block; and

Fig. 13 is a detail perspective view of a strap used as an alternative fastening means for the interior framework.

Referring to Figs. 1 and 2 of the drawings, the walls are constructed of a plurality of interior blocks 15 and of corner blocks 16, 17 and 18 shown in perspective and to a larger scale in Figs. 3, 4 and 5 and 6. Each of the blocks has a tongue 19 on its lower face adapted to closely fit within a corresponding groove 20 formed in the upper face of the underlying blocks. The tongues 19 and grooves 20 of both the intermediate and the corner blocks are positioned equally distant from the face of the block forming the interior surface of the wall. The corner blocks 16, 17 and 18 are made thicker than the interior blocks 15, the additional material forming the outer portion of the corner blocks and thereby giving an effect of massiveness and strength to the corners of the building. Each block is also provided on one end with a tongue 21 and on its opposite end with a groove 22 adapted for a close fit and engagement with the corresponding tongues 21 and grooves 22 of adjoining blocks. The tongues 19 and 21 and the grooves 20 and 22 are shown as substantially rectangular in cross-section, but it is understood that the invention is not limited to cross sections as shown, but may take any other desired section, curved or angular in its boundaries. An alternative form of tongue and groove is described hereafter and shown in Fig. 12. Subsidiary tongues 23 and grooves 24 are shown in the corner blocks 16, 17 and 18, and are useful as supplementing the larger tongue 19 and groove 20 in their function of preventing moisture being driven between the blocks. In the event that the intermediate blocks 19 are made the same thickness as the corner blocks, all of the blocks will be provided with the subsidiary tongues 23 and grooves 24.

The interior faces of the blocks 15 are provided with vertical grooves 25 at intermediate third points and the corner blocks 16, 17 and 18 are provided with corresponding grooves 25 similarly spaced relative to the end adjoining the intermediate blocks.

The intermediate blocks are made of the same length and are placed to break joints at their midpoints thus bringing the vertical grooves 25 into alignment. The vertical grooves 25 are made sufficiently wide to receive a studding 28 which is held in position therein by means of fasteners 26. The fasteners 26 are provided preferably in every third or fourth layer of blocks as closer spacing is found unnecessary. The blocks 15 are preferably made of about the same length as the studding spacing and are spaced so that the studding are positioned in alternate spaces only. The additional grooves 25 are provided to permit of irregular spacing of the studding 28 about window and door openings.

The details of the fasteners 26 are best shown in Fig. 7 and comprises an interiorly threaded spindle which is cast with the block. An L-shaped bolt 27 is threaded into the spindle and is turned until the outer end of the bolt engages and presses the studding 28 into the grooves 25. The studding thereby serves to hold the horizontal layers of blocks together and to keep the wall in true vertical alignment. Rafters 29 and joists 30 which connect the studding 28 of opposite walls serve to tie the walls of the building together.

An alternative form of intermediate block 31 and fastener 32 are shown in Figs. 12 and 13 respectively. The block 31 is provided with air chambers 33 which can be made of sufficient size to materially diminish the material required for the block. A groove for the upper face and a tongue for the lower face can be provided if desired as for the intermediate blocks 15. The tongue 34 and groove 35 are bevelled for interlocking with corresponding grooves and tongues in adjoining blocks. The sections of tongue and groove shown for interlocking are typical only and may be made of any desired style or shape adapted for interlocking engagement of adjacent blocks in the same layer. Only one groove 25 is shown in the block 31 and that is positioned at the middle. Two grooves 25 may be provided, one for each third point. A strap 32 preferably of metal, is cast with the block 31, the strap being distorted as shown to insure safe anchorage in the block. The projecting end of the strap 32 is fastened to the studding 28 by nails or the like driven through holes 37 provided for that purpose in the outer end of the strap.

The grooves 20 in the upper faces of the upper layer of blocks are adapted to receive a nailing strip 38 to which a plate 29 can be fastened as best shown in Figs. 1 and 2. The joists 30 can be fastened to the plate 29 by means of nails or the like.

The blocks of my invention are of especial advantage for connecting door and window frames 43 thereto, requiring for this purpose special blocks, 40, having grooves 20 in both their upper and lower faces for positioning above and below the window openings and above door openings. Special blocks 41 having grooves 22 on both ends, are likewise provided for positioning on either side of door or window openings. The special blocks 40 and 41 replace the regular blocks where necessary to provide a continuous groove running around the door or window opening in which a nailing strip 42 is positioned. The door or window frame 43 is fastened to the nailing strips 42 by spikes or any other desired means. The special blocks 40 and 41 for window and door openings are best shown in Figs. 10 and 11. The door and window frames are thus securely fastened to the wall in a simple and economical manner.

Thus it will be seen that my invention provides a mortarless wall adapted to keep out the elements and to effectively lock together the blocks comprising the wall and to tie the opposite walls together as well as providing simple and effective means for mounting door and window frames therein.

I claim:

1. A block of the class described having a vertical groove formed on its inner face adapted to receive a timber and means adjacent the vertical groove adapted to fasten the timber to the block, said means comprising an interiorly threaded spindle embedded in the block and an L bolt adapted for threading into the spindle.

2. Building construction comprising walls built up of blocks of the class described, said blocks being of uniform size and laid in horizontal layers to break joints at the middle thereof, said blocks having a pair of vertical grooves on their inner face, one positioned at each third point, studding positioned in said vertical grooves, means for fastening said studding to said blocks, said means comprising a member embedded in said block adjacent to the grooves, and means for connecting said embedded member to said studding.

3. Building construction comprising walls built up of blocks of the class described, said blocks being of uniform size and laid in horizontal layers to break joints at the middle thereof, said blocks having a pair of vertical grooves on their inner face, one positioned at each third point, studding positioned in said vertical grooves and means for fastening said studding to said blocks, said means comprising an interiorly threaded spindle embedded in the block adjacent to one of said grooves, and an L bolt adapted for threading into the spindle.

4. Building construction comprising walls built up of blocks of the class described, said blocks being laid in horizontal tiers to

break joints at the middle thereof, said blocks having a pair of vertically extending rectangular grooves on their inner face, one positioned at each third point, studding positioned in said grooves and projecting therefrom and means for fastening said studding in said grooves comprising a member partially embedded in the block with its projecting end adapted for moving into contact with the exposed edge of the studding for the purpose described.

In testimony whereof I affix my signature.

ABRAHAM FRIEDLAND.