Sept. 11, 1923. 1,467,340

A. SIEGEL

WALL CONSTRUCTION

Filed June 27, 1922

Fig. 1

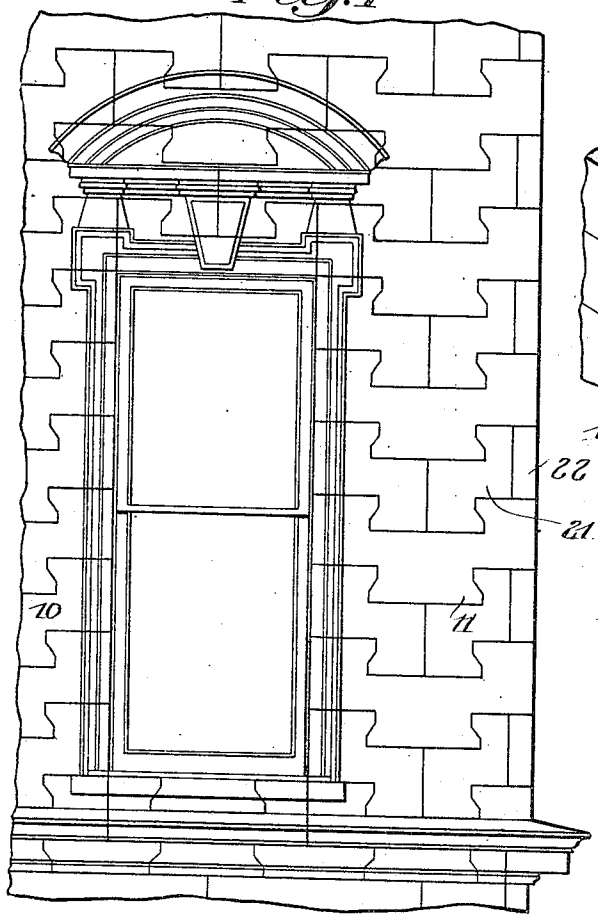


Fig. 2

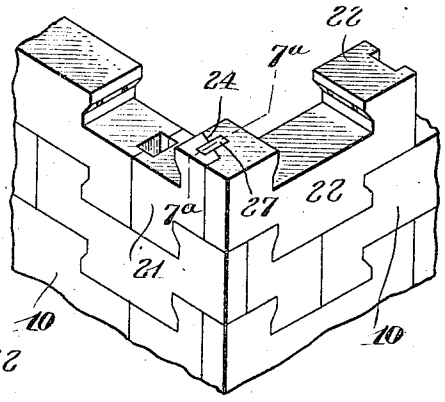


Fig. 6

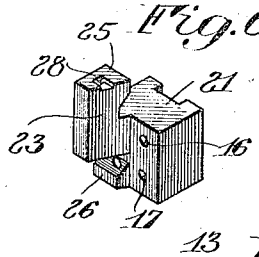


Fig. 5

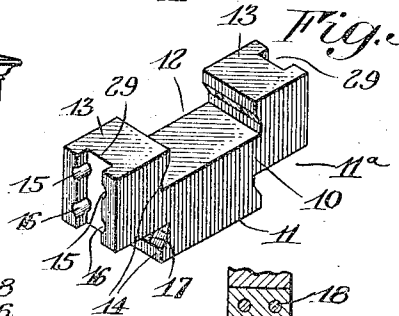


Fig. 3

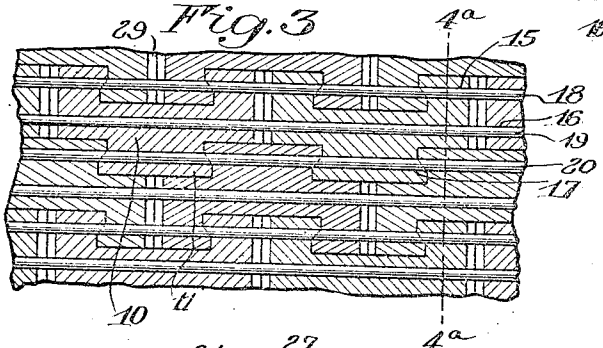


Fig. 4

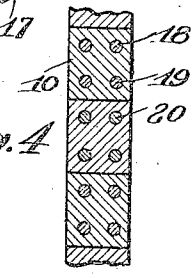
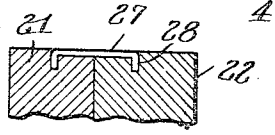


Fig. 7



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UNITED STATES PATENT OFFICE.

ABRAM SIEGEL, OF ROCHESTER, NEW YORK.

WALL CONSTRUCTION.

Application filed June 27, 1922. Serial No. 571,230.

To all whom it may concern:

Be it known that I, ABRAM SIEGEL, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Wall Constructions; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference numerals marked thereon.

This invention relates to building construction and more particularly to the variety built up of blocks laid one upon another and suitably secured together, the chief object of the invention being to provide a construction of the above variety comprising blocks formed for inter-locking engagement with each other and tying means passed through openings in the blocks in series for securing the same against relative movement in any direction and affording a strong and rigid structure capable of being economically manufactured and assembled.

Another object is to provide a construction of the above type comprising blocks of a practical form of design laid one upon another in courses with the blocks of each course in interlocking engagement with the blocks of the adjacent courses and tying means inserted through openings in the blocks of each course for rigidly securing the blocks of each course and of adjacent courses together, to produce a rigid wall, floor and ceiling construction. To these and other ends the invention resides in certain improvements and combinations of parts all as will hereinafter be more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings:

Figure 1 shows an elevation of a building wall embodying the present invention;

Figure 2 is a fragmentary perspective view of a corner portion of the wall.

Figure 3 is a sectional elevation through a portion of the wall in a plane parallel with the sides thereof;

Figure 4 is a sectional view on the line 4^a—4^a of Figure 3;

Figure 5 is a perspective view of one of the blocks;

Figure 6 is a similar view of a corner block;

Figure 7 is a sectional elevation on the line 7^a—7^a of Figure 2.

Similar reference numerals throughout the several views indicate the same parts.

The invention is embodied in the present instance in a construction built up of blocks formed for interlocking engagement with one another and having tying means or members, such, for example, as bars or rods, passed through aligned series of the blocks, so that the latter are securely fixed against relative movement in any direction and the construction or wall as a whole is given a permanently fixed and rigid character. Referring more particularly to the drawings, there is shown in Figures 1 and 2 a wall construction built up of blocks 10 such as illustrated in detail in Figure 5, laid with their ends in abutting relation to form horizontal courses with the joints between the blocks at their ends staggered in a vertical direction.

As shown in Figure 5, each block, which may be made of wood, concrete, clay or other suitable material, is preferably formed adjacent the center of one side with a projecting portion 11 of substantially dovetail shape opposite which on the other side the block has a recess 12 formed therein of the same shape as the projection 11 and slightly larger. The recess 12 leaves adjacent either end of the same side of the block a projecting portion 13 each of which corresponds substantially in size and shape with one-half of the projection 11. On either side of projection 11 is a recessed portion 11^a of substantially the size and shape of one-half of recess 12. The dovetail projecting and recessed portions are preferably somewhat flattened, as indicated at 14, to obviate excessively thin corner portions or edges. The blocks are capable of being readily fitted together to build up a wall in the relation shown in Figures 1, 2 and 3, with horizontal courses in which the blocks lie end to end, the projections 13 of adjacent block ends being locked together in a recess 12 of a block of the adjacent course and each projecting portion 11 of a block being locked in a recess formed by the recesses 11^a of adjacent block ends. Thus the blocks of each course are not only locked together but to the blocks of adjacent courses also and they may if desired be united by cementing material,

providing a solid and substantial type of construction. While it is preferred to form the blocks as described above and shown in the drawing, the particular details of arrangement and construction may of course be varied, the principal consideration being the provision of blocks capable of being practically manufactured and assembled in effective interlocking relation with each other.

It has been found that the rigidity and strength of a block construction such as described above may be materially increased by forming the blocks with openings therein arranged to extend in alignment with each other when the blocks are laid together and by subsequently passing suitable tie members, such, for example, as rods of a suitable variety of wood or of metal through such openings, to thus further lock the blocks against any relative movement and to afford a structure capable of supporting itself without arched or other special construction for considerable distances, as, for example, between spaced foundation supports and over windows, doors and other wall openings. A plurality of such openings as shown at 15, 16 and 17, Figures 3 and 5, are preferably formed in each block in the nature of circular bores extending longitudinally of the block from end to end thereof. In the present instance there are two sets of three such bores in each block, the bores being spaced from each other vertically and horizontally transversely of the block. It is to be noted that the upper bores 15 and the lower bores 17 pass through the projecting portions 11 and 13 of the blocks and the tie members 18 and 20 passed through these bores securely lock the blocks of adjacent courses together, as well as the blocks of the same course which latter are further held by the tie members 19 passed through the central bores 16. The tie members are preferably in the form of round bars or rods of substantial length, as shown and of such a size relative to the bores in the blocks as to be readily passed or slid into an aligned series of bores in the blocks of a given course. This is preferably accomplished by laying a course of the blocks and inserting the rods through the bores of the course from an end thereof before the end or corner blocks described below are placed in position.

Suitable blocks may be provided for finishing the end of the courses at the end or corner of a wall, preferred forms of blocks for this purpose being illustrated in Figures 2 and 6. Such corner blocks are in complementary pairs and the complementary interlocking form of these blocks, as shown in Figure 6, comprises a generally diagonal irregular face 23 on block 21 fitted to a corresponding surface 24 on block 22. It is to be noted that by this arrangement each block closes the tie rod openings of the complementary block, so that neatly finished ends are provided for the courses. The corner blocks have interlocking portions 25 and 26, as described in connection with the block 10 and the corner blocks are preferably secured or tied to each other as by means of a metal strap 27 having angularly turned ends engaged in recesses 28 formed in each of the blocks.

In order to facilitate the handling of the blocks by hoisting apparatus where desired, the ends of each block are preferably recessed as at 29 to permit the hooks or grapples of the hoisting apparatus to be attached to the block within such recesses and within the block outlines. The hoisting connections are thus held against slipping from the block and so located as not to interfere with the placing of the block in position on a wall.

The block construction described has in addition to the foregoing structural merits the additional advantages from the point of view of economy that its use for buildings eliminates the need for and cost of studding, clapboards, sheathing, and the like and the rigid type of construction permits of the use of relatively cheap material, such, for example, as wooden blocks formed from miscellaneous stock. The blocks may, of course, be made in various proportions and sizes to suit the circumstances of the structure to be built and the materials employed. The tie members or rods are arranged to not only lock the blocks of each course together but also the blocks of adjacent courses as well and serve as a substantial reenforcement for each course and the wall as a whole, so that it will not yield or sag between spaced points of support or over wall openings, thus simplifying the problem of supporting a wall so built, eliminating the tendency to settle and part or crack, and permitting of the use of light frames for lining window, door and other wall openings. As shown in Figure 1 the blocks may if desired have their outer faces formed with ornamentation matching up in the assembly of the blocks in a wall to afford pleasing ornamental design.

I claim as my invention:

1. A building partition comprising a plurality of blocks laid one upon another in courses, and each provided with means for interlocking engagement with a plurality of blocks of an adjacent course to lock the blocks of each course and also adjacent courses together, said blocks being formed with openings therein arranged to extend in alignment with one another in each course, and a tie member passed through the aligned openings of the blocks of each course to secure the same together.

2. A building construction comprising a

plurality of blocks laid one upon another in courses, the blocks of adjacent courses having cooperating projecting and recessed portions of dovetail shape in interlocking engagement with one another and said blocks being formed with bores therethrough arranged to extend in alignment with one another in each course, and a tie member passed through the aligned bores of the blocks of each course to secure the same together.

3. A building construction comprising a plurality of blocks each having a dovetail projection and a correspondingly shaped recess for interlocking engagement with complementary portions of adjacent blocks, said blocks being formed with openings therein arranged to extend in alignment with one another in successively adjacent blocks, a tie rod passed through each series of said aligned openings to secure the blocks together.

4. A building construction comprising a plurality of blocks laid one upon another in courses, and each having on each of opposite sides thereof a dovetail projection and a similarly shaped recess in interlocking engagement with corresponding portions of blocks in adjacent courses, said blocks having openings formed therein arranged to extend in alignment with one another in each course, and a tie rod passed through said aligned openings in each course to secure the blocks together.

5. A building construction comprising a plurality of blocks laid one upon another in courses, and provided with projecting and recessed portions of dovetail shape for interlocking engagement with corresponding portions of blocks of adjacent courses, each of said blocks being formed with a plurality of spaced openings therein arranged to extend in alignment with the corresponding openings of blocks in the same course, and tie rods passed through the series of aligned openings in each course to secure the blocks together.

6. A building construction comprising a plurality of blocks laid one upon another in courses, and provided with projecting and recessed portions for interlocking engagement with corresponding portions of blocks of adjacent courses, said blocks being formed with openings therein arranged to extend in alignment with corresponding openings of blocks in the same course; a tie member passed through said aligned openings in each course, complementary corner blocks for each course having overlapping portions closing the ends of said aligned openings in each wall at a corner, and tie means for securing adjacent corner blocks together.

7. A building partition comprising a plurality of blocks provided with locking portions adapted for engagement with complementary locking portions of adjacent blocks by movement transversely of the plane of the partition for locking said blocks together against relative movement in said plane, and tie members passed through openings in said blocks to secure the blocks against relative movement transversely of said plane.

8. A building partition comprising a plurality of blocks, each provided with locking portions engaged with complementary locking portions of a plurality of blocks of an adjacent course to secure the latter and also the respective courses against relative movement in the plane of said partition, and tie members passed through openings in said blocks to secure the blocks against relative movement transversely of said plane.

9. A building partition comprising a plurality of blocks, each provided with projecting and recessed locking portions adapted to be engaged with complementary locking portions of a plurality of blocks of an adjacent course by an interlocking movement transversely of the plane of said partition for securing the latter and also the respective courses against relative movement in said plane and for breaking joints between blocks and courses, and tie members passed through openings in said blocks to secure the same against movement transversely of said plane.

10. A building partition comprising a plurality of blocks provided on opposite sides with locking portions adapted to be engaged by an interlocking movement transversely of the plane of said partition with complementary locking portions of blocks of courses adjoining said opposite sides for locking said courses and the blocks of each course against relative movement in said plane, and tie rods passed through openings in said blocks for securing the latter against movement transversely of said plane.

ABRAM SIEGEL.