No. 831,732. PATENTED SEPT. 25, 1906.

M. C. MOMSEN.
PLASTIC BUILDING BLOCK.

APPLICATION FILED MAY 11, 1905.

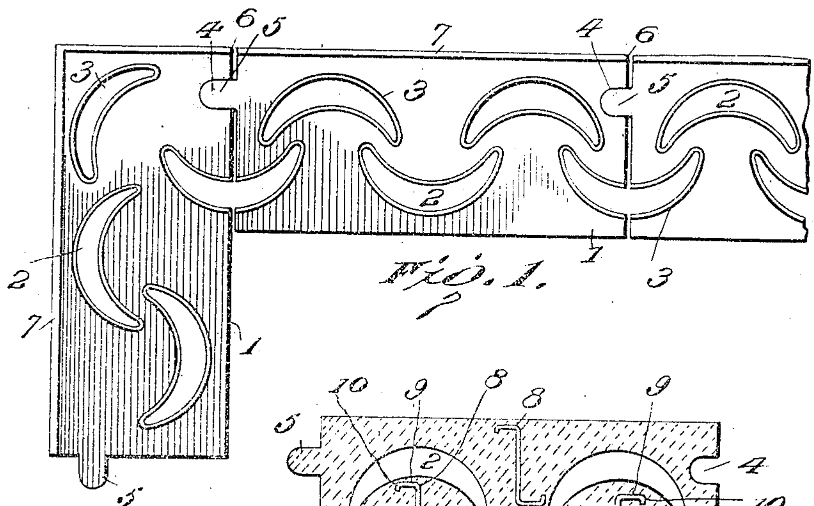

Fig. 1.

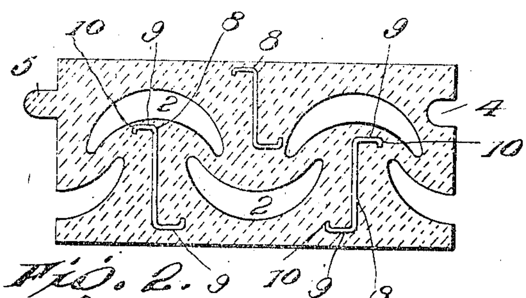

Fig. 2.

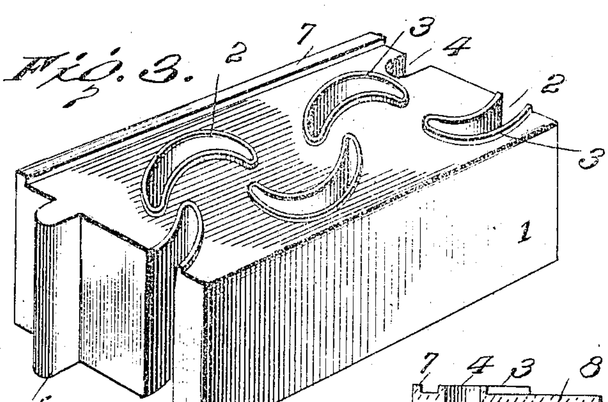

Fig. 3.

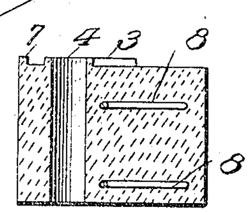

Fig. 4.

Witnesses

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PLASTIC BUILDING-BLOCK.

No. 831,732. Specification of Letters Patent. Patented Sept. 25, 1906.

Application filed May 11, 1905. Serial No. 260,006.

To all whom it may concern:

Be it known that I, MELVILLE C. MOMSEN, a citizen of the United States, residing at Armour, in the county of Douglas and State of South Dakota, have invented certain new and useful Improvements in Plastic Building-Blocks, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to cement blocks, the purpose of the invention being to provide an improved building-block made of cement, concrete, or any other plastic material, that shall be simple in construction, light and durable, and effective in operation.

A further object of the invention is to provide a building-block made of plastic material capable of supporting a greater tensile and compressive strain according to the amount of material used in its construction than other cement or concrete building-blocks.

A still further object of the invention is to provide a plastic-block system for use in the construction of buildings comprising a plurality of blocks formed of cement, concrete, or other plastic material so arranged in proximity to each other and so connected as to form a continuous system.

Other objects and advantages of my invention, as well as the structural features by means of which these objects are attained, will be made clear by an examination of the specification, taken in connection with the accompanying drawings, in which the same reference-numerals indicate corresponding portions throughout, and in which—

Figure 1 is a top plan view of a number of blocks constructed in accordance with my invention and showing one of the corners of a wall constructed in accordance with my invention. Fig. 2 is a transverse section showing the position of the reinforcing-anchors in the block. Fig. 3 is a perspective view of one of the blocks constructed in accordance with my invention. Fig. 4 is a vertical section taken through the block shown in Fig. 3.

1 designates a block formed of cement, concrete, or any other plastic material constructed in accordance with my invention, and 2 semicircular or crescent-shaped vertical openings or cavities extending through the block and having the upper edges thereof extending slightly above the surface of the block, as shown at 3, to form a guard and to prevent waste of mortar and also to prevent the mortar from falling into or covering the openings, which are arranged in rows extending longitudinally of the blocks and approximately parallel with each other, one of said rows being arranged near the outer edge of the block and the other row near the inner edge. Said openings are also arranged alternately, so that each has its points arranged opposite the concave sides of the openings in the opposite row. Hence each of the spaces between the openings in each row is crossed by an opening in the opposite row, this arrangement of parts having the effect of carrying the warm air from the inside of the building to intercept the cold air coming from the outside, and thus preventing frost from penetrating the wall, the double air-space being indispensable in securing a dry wall and the crescent-shaped openings or cavities having a better effect in distributing the warm air to meet the cold than would be the case if the openings were oblong and straight. Each block is provided with a vertical groove or kerf 4 to receive a vertical tongue or dowel 5 on the end of the opposite block, this arrangement of parts having the effect of holding the blocks securely in place and forming a continuous line or system of cement blocks in a wall. The tongue 5 projects farther from the edge of the block than the depth of the groove or kerf 4 in order that the tongue may completely fill said groove and yet leave a space 6 between the blocks, as shown in Fig. 1, for the cement or mortar.

7 designates an upwardly-projecting guard formed integral with the top of each block at its outer edge, the purpose of this arrangement being to aid in holding the cement or mortar in position on top of each block and also to add to the exterior appearance of the wall by obliterating the mortar-lines commonly seen in brick and stone walls.

Each block has embedded therein a plurality of anchors or reinforcing devices 8, which may be made of any suitable material, preferably ordinary wire. Each anchor is formed of one piece of material having each end bent on itself at right angles to form a lateral projection 9 and the end of said lateral then bent on itself to form a point 10, extending parallel with the main shaft of the anchor. These anchors are preferably arranged in each block so that one end extends to within an approximately short distance of the concave sides of one of the crescent-shaped openings 2 and the other end extends to within

an approximately short distance from the edge of the block. (See Fig. 2.) By forming the openings 2 in the block so that their points or ends overlap the front and rear faces or sections of the block are separated by an air space or chamber along every transverse line or plane for the purpose of retarding the passage of heat, cold, and moisture transversely through the block, as previously explained; but while this construction is advantageous in this respect it materially weakens the block, so that the use of the anchors or ties 8 is necessary. By embedding these anchors 8, which have angularly-bent portions 9 10, in the necks or portions of the block opposite the concave sides of the openings 2 of one row and between the ends of adjacent openings in the other row the block is strengthened at its weakest points and rendered as substantial as it would be if the openings 2 did not overlap. As many of the anchors 8 may be embedded in each block as are found necessary or desirable.

In each corner-block the vertical groove 4 is placed in the side of a block instead of at the end.

In operation the blocks are laid as shown in Fig. 1 and the mortar placed thereon between and around the crescent-shaped openings or cavities 2. The guards or upraised projections 3 and 7 have the effect of preventing the mortar from spreading, so as to ooze beyond the outer edge of the wall or into the crescent-shaped openings 2, and also insure sufficient mortar to form the bed for the upper tier of blocks. Mortar or cement is also placed in the spaces 6 between the blocks to form a continuous cement wall which is perfectly air and water tight. The vertical dowels or tongues 5, fitting snugly in the vertical grooves 4, tend to hold the blocks rigidly in position and prevent their displacement from any cause, and the anchors 8, which are placed in the plastic material before the blocks are hardened, have the effect of strengthening the block.

Having thus described my said invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

A plastic block comprising a body having vertically-extending openings formed therein and arranged in substantially parallel rows extending longitudinally of the block, the openings in one row being arranged so as to cross the necks or portions between the ends of adjacent openings in the other row, the ends of said openings overlapping each other as shown and described, and a plurality of vertical rows of anchors or ties 8 embedded in said necks or portions, said anchors or ties being transversely disposed and each consisting of a piece of metal bent to form angular the ends 9 and the points 10, substantially as described and for the purpose set forth.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

MELVILLE C. MOMSEN.

Witnesses:

E. P. WARYER,

C. J. KLAHN.