No. 828,930. PATENTED AUG. 21, 1906.

J. CRAMPTON.

BUILDING BLOCK.

APPLICATION FILED AUG. 10, 1905.

2 SHEETS—SHEET 1.

Fig. 1

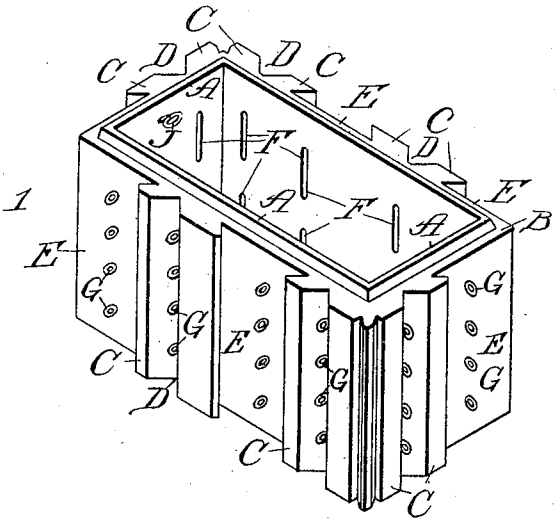


Fig. 2

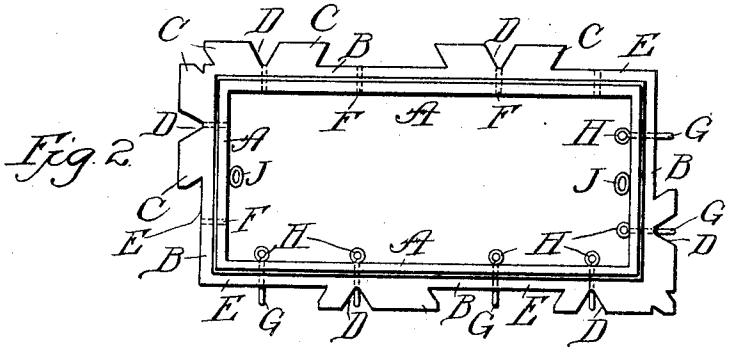
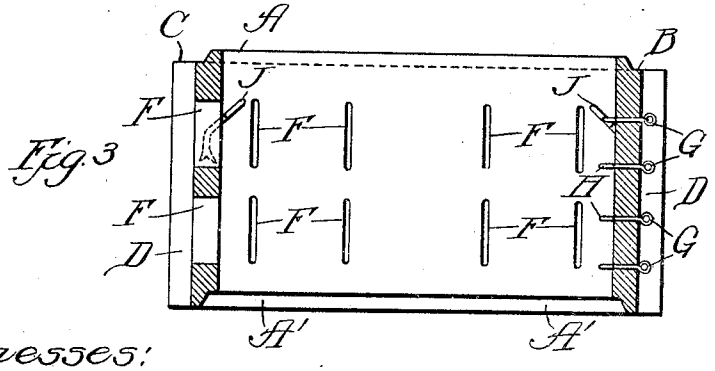


Fig. 3



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2 SHEETS—SHEET 2.

Fig 4.

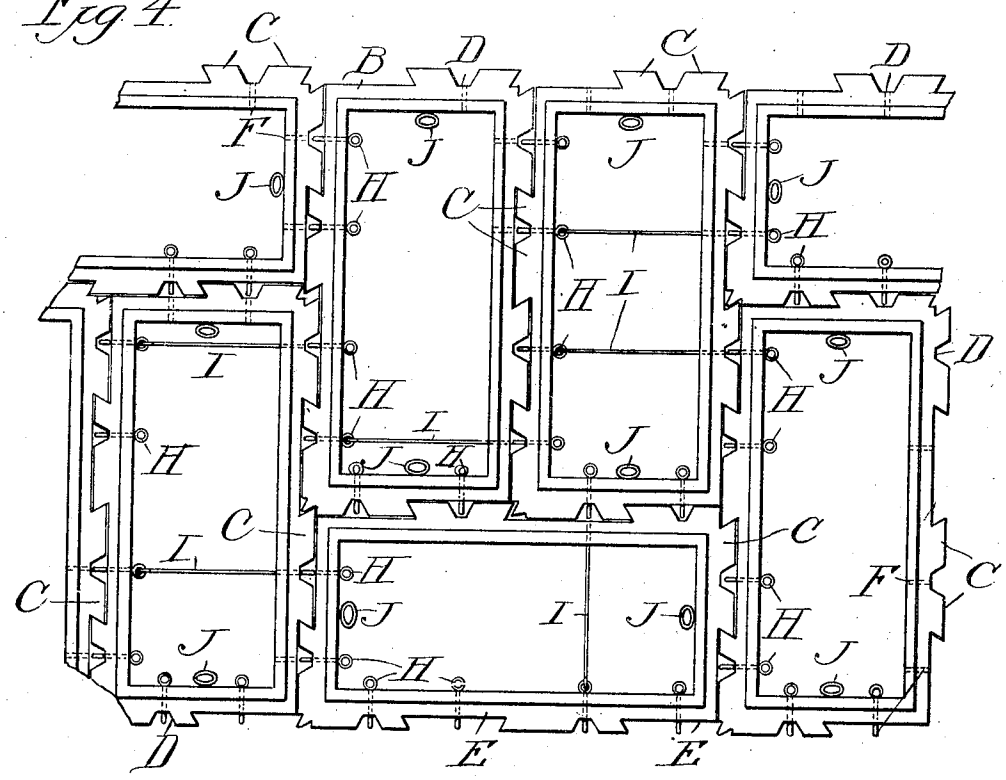
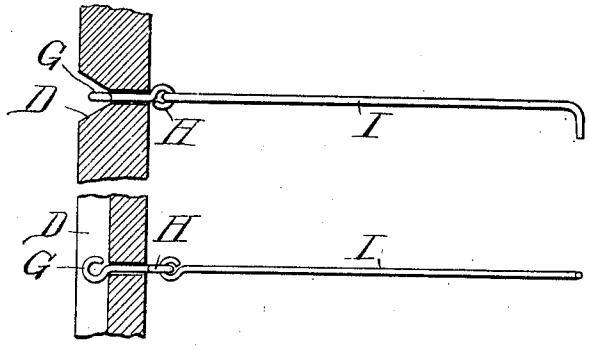


Fig 5.



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UNITED STATES PATENT OFFICE.

JEREMIAH CRAMPTON, OF DURBAN, NATAL.

BUILDING-BLOCK.

No. 828,930. Specification of Letters Patent. Patented Aug. 21, 1906.

Application filed August 10, 1905. Serial No. 273,662.

To all whom it may concern:

Be it known that I, JEREMIAH CRAMPTON, mining engineer, a subject of the King of Great Britain and Ireland, residing at Durban, in the Colony of Natal, have invented a certain new and useful improvement in an interlocking and interchangeable casement or hollow block with parts therefor and method of construction for the manufacture of solid concrete or other blocks, of which the following is a specification.

My invention relates to and has for its object the method and form of construction of a casement or hollow block interlocking and interchangeable for the manufacture of concrete or other blocks adapted for use in the construction or erection of breakwaters, sea-walls, piers, and such like works.

The present form or configuration of a block manufactured for the above purpose is either square with smooth and bevel sides or diamond-head shaped with a concave diamond-shaped bottom.

The main principle of my invention is the peculiar method, construction, or formation of the sides and ends of the casement or hollow block by the addition of dovetailed, partly dovetailed, or square cheeks or locks for the purpose of interlocking and fixing with ducts, grooves, or channels, and by means of certain affixed eyebolts and ports or slots, also hook attachments for bracing together to form one whole. They are preferably constructed of concrete and iron, although I do not confine myself to these materials, as any other suitable materials or combination of materials may be used in their construction. The casement or hollow block may be made by molding in frames or in any other suitable manner.

My invention may be applied in the construction of breakwaters, sea-walls, piers, and similar works and are made in the convenient form of a casement or hollow block, so as to be easily handled in setting out the desired work and interlocked and fitted together and thereafter filled up with concrete or other suitable substance from the bottom of the work to the top, so as to form one solid bolted and immovable mass.

My description and the drawings attached hereto pertain to a molded concrete casement or hollow block by way of illustration.

Referring to the accompanying drawings, which illustrate my invention, and in which similar letters indicate similar and like parts throughout, Figure 1 is a perspective view of the casement or hollow block with dovetail cheeks or locks. Fig. 2 is a plan showing the dovetail cheeks or locks with ducts, grooves, or channels. Fig. 3 is a side elevation showing the ports or slots for the purposes of bolting. Fig. 4 represents two or more casements interlocked and in position. Fig. 5 represent the eyebolts and hook.

In all the figures where shown, A represents a raised beveled edge running all round the casement or block for the purpose of guiding a descending block into its place on the seat or bed B.

A′ is a beveled recess provided at the bottom and on the inside of the casement for the purpose of fitting over the beveled edge A and resting on the seat or bed B.

The letters C shown on the several figures represent the cheeks or locks which project from the sides and ends of the casements and which all run vertically from top to bottom of casement. These cheeks or locks are constructed as to shape either dovetail, half-dovetail, or square for the purposes of interlocking.

The letters D indicate the ducts, grooves, or channels running vertically from top to bottom. These ducts or grooves are for the purpose of protecting the eyebolts fixed in the cheeks or locks and to receive the fine concrete after the casements or blocks are bolted together.

The letters E indicate the outside of the casement forming a recess between the cheeks or locks C and running vertically for the purpose of receiving the cheeks or locks C affixed to a casement similarly constructed.

The ports or slots, which are vertically cut and beveled on the inside and which are indicated by the letters F, are provided to assist in the drying of the casement and setting evenly also to fix the eyebolts as and where desired and for the passage of the hook. Eight of such ports or slots are provided on each side of the casement and four at the ends, two in each cheek C and two in each recess E.

The letters G indicate eyebolts of rod-iron.

These eyebolts are on the outside of the side and end of the casement or hollow block, and in the case of a "standard-size" casement thirty of such eyebolts are provided, twenty of which are affixed on one side, ten in each cheek C and ten in each recess E, also ten at the end of the casement, five of which are affixed in the cheek C and five in the recess E. A like number of eyebolts are provided on the inside of the casement, twenty on the side thereof and ten at the end, which are indicated by the letter H. The eyebolts G and H form one piece.

I represents a rod, either of iron or steel, one inch in diameter and five feet long, with a hook at each end to attach to the eyebolts G and H, respectively.

The letter J represents a ring or other suitable device let into the inside of the ends of the casement for the purpose of suspending the casement to place in position.

Having now described the different parts and attachments of my casements or hollow blocks, I proceed to show how they are used, interlocked and bolted together for the purpose of erecting a breakwater or work of a similar kind. If it is desired to erect a breakwater, sea-wall, or similar construction, the ground is leveled as well as it is possible to do so and one block or casement is placed in position. A second block is then lowered down, and in lowering the cheeks or locks are intersected into the cheeks or locks on the side of the first block in position half-length on, so as to break joint. When on the bottom, these two blocks form a first and second line of tiers. A third block is lowered onto No. 1, where by the raised beveled edge A and the beveled recess A′ it is guided onto its seat B of the lower block. A fourth block is lowered, its cheeks or locks intersecting those of No. 3, is guided into its place, and seats on B top of No. 2, and so continued on until the surface of the water is reached or a sufficient number of blocks are piled on each other to give the height of wall required. In fitting or interlocking side to side or end to end alternate casements are used, so that the eyebolts G fall opposite the ports or slots F for the purposes of bolting the two casements together. When a length or line has been constructed as above indicated and it is desired to carry out the breakwater or like construction farther from the shore, another set of casements are lowered into position by sliding the dovetail cheeks or locks of the lowering casement down and between the recesses E of the casement already placed in position, and by this means the casements are interlocked. When the casements are so interlocked, the ports or slots F will be immediately opposing the outer eyebolts G. The rods I are thereupon placed through the ports or slots F and are attached at one end to the outer eyebolts G and are then attached to the inner eyebolts H. By such attachment the two casements are bound together. In the construction of a breakwater or other work the casements may be placed in different positions by interlocking and bolting the end of one casement to the side of another, and so on, so as to thoroughly interlock the casements to one another in different ways, so as to form a solid and immovable mass. Where the blocks are laid on a sandy bottom and it is desired to sink them deeper after the tier is completed, a suction-pump is placed inside the blocks with the end on the sandy bottom, and as the water and sand are pumped out the whole tier of blocks sink or descend by their weight until the necessary depth is attained, when pumping is discontinued and the suction-pipe taken out. When the casements are placed in position and are interlocked and bolted together, they are filled up with concrete or other suitable material by using a "Remie" or telescopic pipe, which is let down to the bottom of the casements and fed from the top. When the blocks or casements are filled up, the rods I and the bolts H are embedded and held in position by the concrete. In order that the casements may form one solid mass, the ducts or grooves D are filled up with fine strong concrete from the bottom to the top.

Fig. 4 indicates the manner in which the casements are interlocked in different positions. The cheeks or locks C, together with the recesses E and ducts F at the sides and ends of every casement, are so constructed as to angle, depth, width, height, and in every other essential particular so as to enable the casements to be interlocked and bolted together if placed either end to end, side to side, end to side, or half and half, as it may be desired.

Having now particularly described and ascertained the nature of my invention and in what manner the same is to be performed, I declare that what I claim is—

1. A building-block comprising a hollow body portion provided on its outer faces with locking members projecting outwardly from the body portion and spaced apart to form intervening locking cavities equal in width to said projections, said locking members and cavities being dovetailed in cross-section, said locking portions having grooves or ducts, ports or openings extending from said grooves through said body portion and also ports extending from said cavities through said body portion, and locking means extending through said ports into said grooves and intervening cavities, substantially as described.

2. A building-block comprising a hollow

body portion provided on its outer face with locking members projecting outwardly from the body portion of the block and spaced apart to form intervening locking cavities, said locking members having grooves or ducts, and locking means projecting into said grooves or ducts, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JEREMIAH CRAMPTON.

Witnesses:
WM. BURREE.
DAVID PATON.