W. D. JOHNSTON.

CONCRETE BLOCK FOR CRIBWORK AND THE LIKE.

APPLICATION FILED NOV. 21, 1906.

923,975. Patented June 8, 1909.

2 SHEETS—SHEET 1.

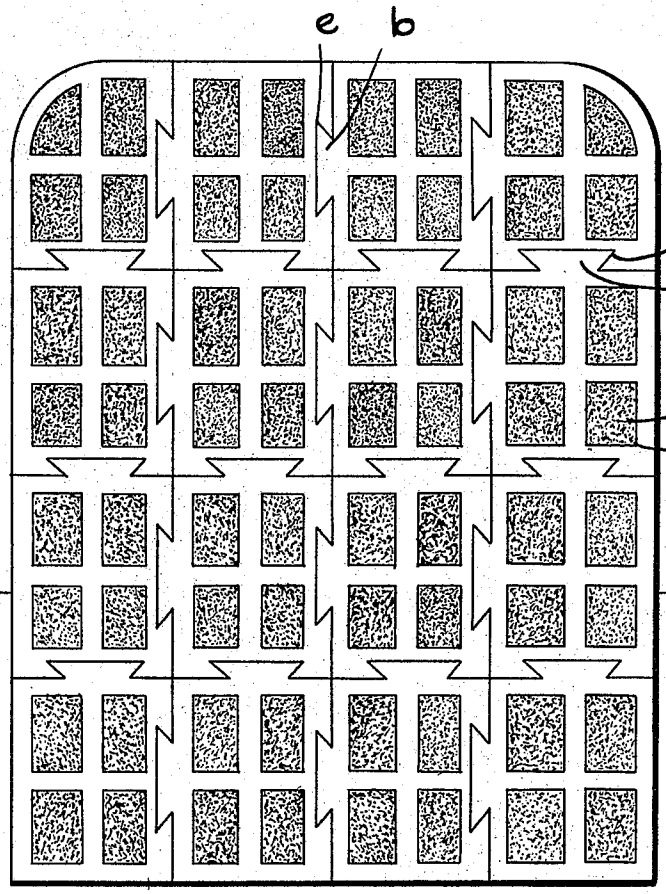


FIG. I.

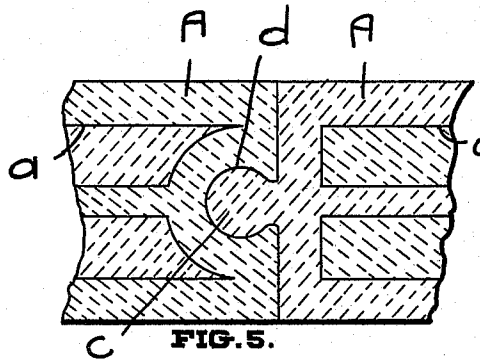


FIG. 5.

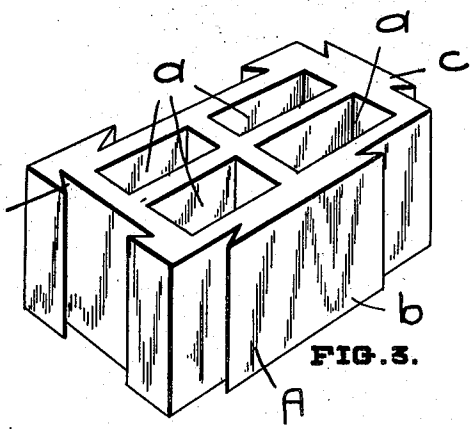


FIG. 3.

WITNESSES.

INVENTOR.
W. D. JOHNSTON.

BY

ATT'Y.

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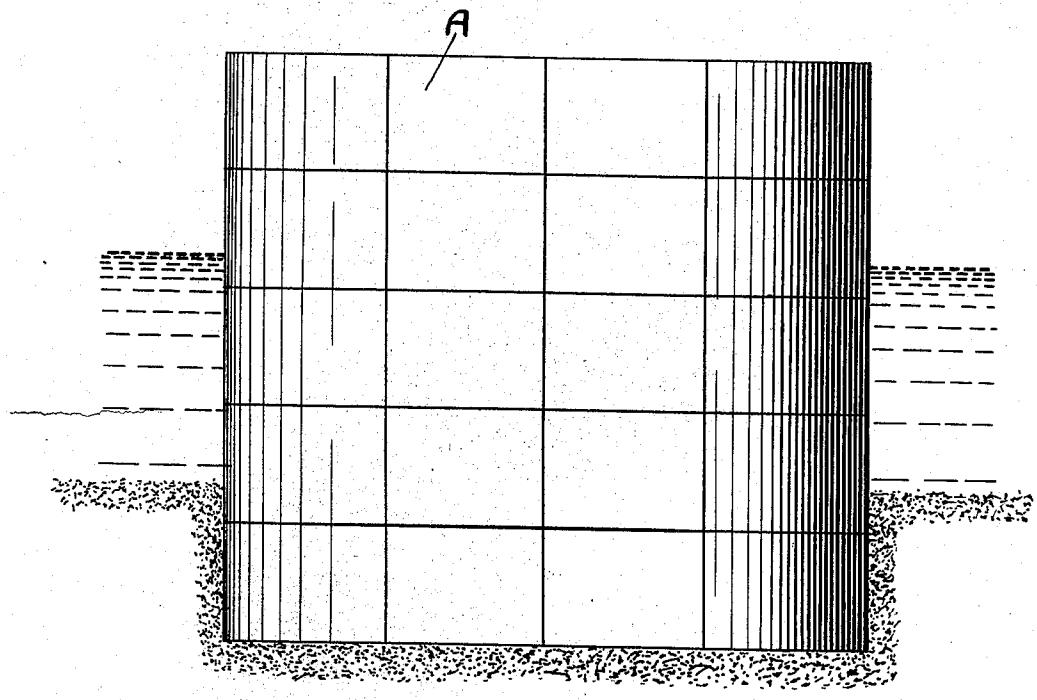


FIG. 2.

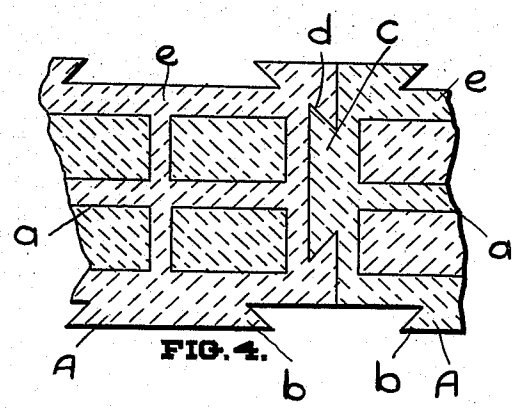


FIG. 4.

WITNESSES.

INVENTOR.
W. D. JOHNSTON.

BY

ATT'Y.

UNITED STATES PATENT OFFICE.

WALTER D. JOHNSTON, OF NEW YORK, N. Y.

CONCRETE BLOCK FOR CRIBWORK AND THE LIKE.

No. 923,975. Specification of Letters Patent. Patented June 8, 1909.

Application filed November 21, 1908. Serial No. 464,509.

To all whom it may concern:

Be it known that I, WALTER D. JOHNSTON, of the city, county, and State of New York, United States of America, have invented certain new and useful Improvements in Concrete Blocks for Cribwork and the Like, of which the following is a specification.

My invention relates to improvements in blocks for concrete construction particularly adaptable for the construction of docks, break-waters, wharves, bulkheads, sea-walls and other submarine works of analogous character, and the objects of my invention are to provide a simple and improved means whereby such works may be conveniently, inexpensively and rapidly constructed without the necessity of employing divers or of erecting temporary caissons during the building operation; and it consists essentially of a plurality of similarly shaped blocks arranged in vertical and horizontal series, the said blocks having vertical passageways therethrough adapted to register and each block being provided with tenon lugs which fit into slots provided in the adjacent block of the horizontal series, the passageways in the blocks being filled with a suitable filling material as hereinafter more fully set forth and described.

I am aware that it has been proposed to construct submarine works of the nature I have mentioned with a number of irregular shaped blocks adapted to fit together and be locked by means of suitable locking pins extending into recesses in each block but the disadvantage of this is that it is always necessary to have a diver to fit the pins into the recesses under water when the bottom is uneven.

With my improved construction I am enabled if desired to fit the whole bottom together prior to submerging.

In the drawings: Figure 1 is a top view of a dock embodying my invention. Fig. 2 is a front view of the same. Fig. 3 is a perspective view of one of the block. Fig. 4 is a sectional connection between the blocks. Fig. 5 is a sectional detail of an alternative form of connection.

In the drawings like letters of reference indicate corresponding parts in each figure.

A is the block which may be of any desirable building material but is preferably formed of concrete. In each block are formed a number of bores or passage-ways *a*, adapted to extend vertically when the block is placed in position. The number and shape of these passage-ways will depend in a large extent on the character of the filling material and it is evident that they may be formed in any shape.

As shown the block is formed square and has integral with each side thereof outwardly projecting tenon lugs *b* and *c* on two of its sides and on the other two sides dovetailed slots *d* and *e* into which the tenon lugs of the adjacent blocks are adapted to fit.

In Fig. 5 I have shown a slot circular in cross-section in place of dove-tailed as shown in the other figures.

In carrying out the construction of the submarine dock the lower blocks or sections of the dock are fitted together with the tenon lugs of one block fitting in the slots in the adjacent block. These may be fitted together before being submerged or after.

It is evident that the tenon lugs form convenient means for insuring that the block is in position even after submerging. The blocks which are to occupy the outer edge of the block will of course not have any tenon lugs outwardly protruding therefrom but will be made smooth as shown. The next horizontal series of blocks is then superimposed on these and is formed of blocks of exactly the same size and shape as the lower layer and having the vertical bores or passages in the various blocks thereon registering with the similar passages in the lower layer.

As many layers as are desired to raise the dock to the required height are placed on top of the lowest layer and finally a suitable filling material such as rough concrete or sand is filled in the vertical bores or passages in the blocks thus binding them all together and locking each horizontal series together. It will thus be seen that when the entire construction is carried out the whole pier is locked together and forms a solid whole which cannot be moved in any direction.

If desired my form of concrete block might be employed on the wall of a building and in this case the blocks would be placed vertical with the passages therein extending horizontally.

It will be understood that in carrying out submarine construction such as piers or abutments the outer facing wall might be formed of granite or other hard stone suited

for the purpose and my improved blocks or sections used for the filling of the dock.

While I have described with great particularity of detail one specific embodiment of my invention yet it is not to be understood therefrom that the invention is limited thereto as changes may be made in the details thereof without departing from the spirit of my invention.

What I claim as my invention is:—

The herein described means of building submarine constructions, which consists in a plurality of rectagonal blocks arranged in horizontal series, each block having two dove-tailed tenon lugs on adjacent sides thereof, the outer faces of the said lugs being flat and greater in area than the remainder of the side to which it is secured, the said blocks also having on the opposite sides, two recesses into which the tenon lugs on the adjacent blocks are adapted to fit, and four vertical passage-ways rectangular in cross-section and adapted to register with the superimposed blocks the outer edges of the passageways being parallel with the faces of the blocks and filling material in the vertical passageways locking all the horizontal series together.

Signed at Brooklyn, New York, in the State of New York, this 14th day of November, 1906.

WALTER D. JOHNSTON.

Witnesses:

CHAS. B. LA VOE,

DICKINSON E. GRIFFITH.