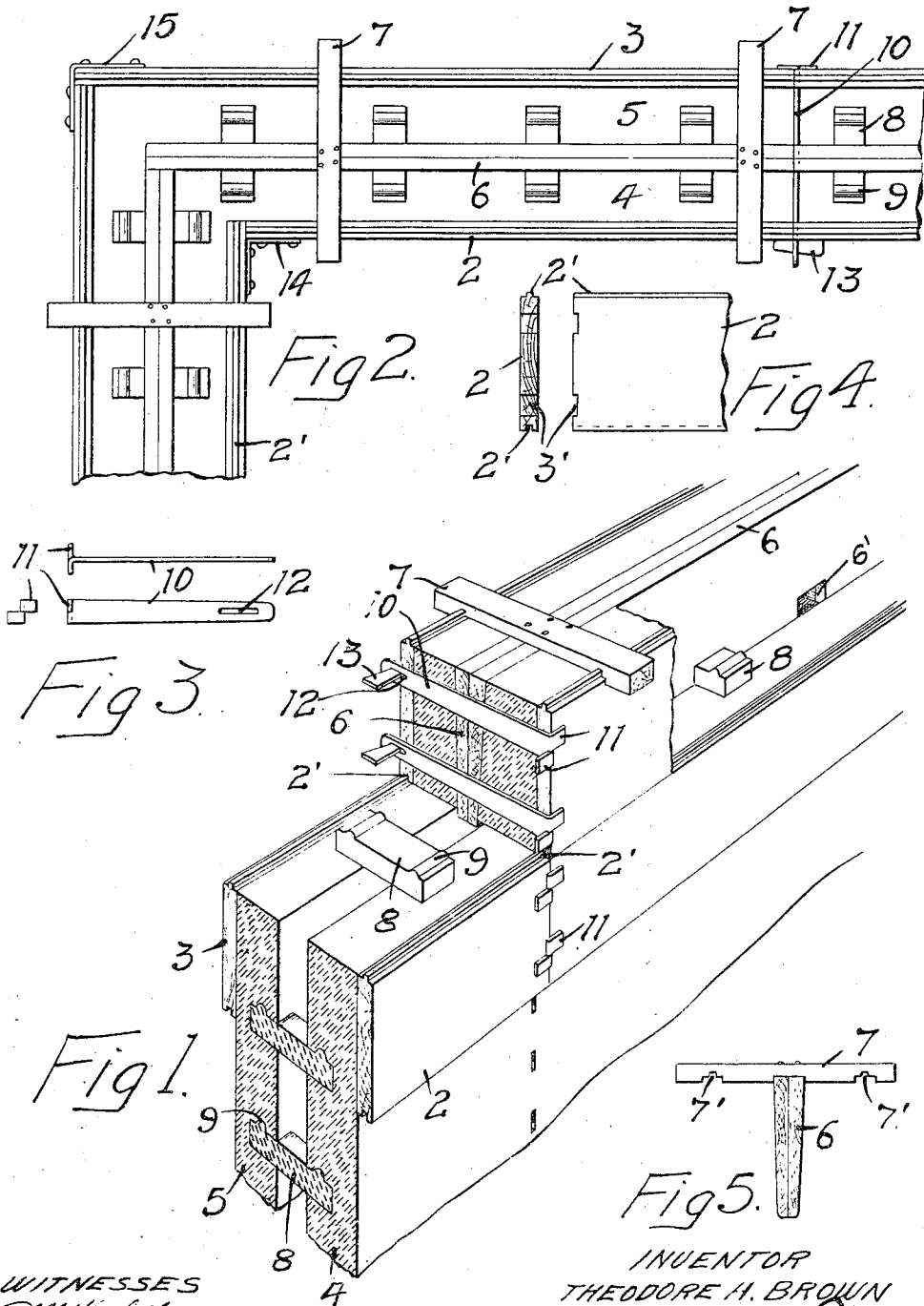


T. H. BROWN.
 APPARATUS FOR MOLDING CONCRETE WALLS.
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1,013,475.

Patented Jan. 2, 1912.



WITNESSES
M. Walstrom
J. A. Binghamton

INVENTOR
 THEODORE H. BROWN
 BY *Paul & Paul*
 HIS ATTORNEYS

UNITED STATES PATENT OFFICE.

THEODORE H. BROWN, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR TO NELS J. BLOMGREN,
OF MINNEAPOLIS, MINNESOTA.

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Specification of Letters Patent.

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Application filed February 13, 1908. Serial No. 415,646.

To all whom it may concern:

Be it known that I, THEODORE H. BROWN, of Minneapolis, Hennepin county, Minnesota, have invented certain new and useful Improvements in Apparatus for Molding Concrete Walls, of which the following is a specification.

My invention relates to a molding apparatus for concrete walls of the monolithic type, and the object of the invention is to provide a molding frame capable of convenient and rapid adjustment and by means of which a solid wall comprising face sections with an air space between them, can be molded in a very compact and durable manner.

My invention consists generally in various constructions and combinations, all as hereinafter described and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a perspective view of a wall with my improved molding apparatus thereon. Fig. 2 is a top view of the same. Fig. 3 is a detail view of one of the devices for locking the sides of the mold together through the wall. Figs. 4 and 5 are detail views illustrating the means employed for locking the side boards and the core plate together.

In the drawing, 2 and 3 represent the side boards or plates between which the wall sections 4 and 5 are formed.

6 is a core plate tapered slightly from the top to the bottom to facilitate the drawing of the same, and provided with a cross bar 7 to be grasped by the operator in raising the core plate from one level to another.

8 represents tie-blocks having cross ribs 9 thereon whereby the ends of the blocks will be interlocked and bonded in the concrete. These blocks, as indicated, are designed to bridge the space between the sections 4 and 5. The blocks may be made of any suitable material and may be rendered impervious to moisture by a coating of suitable substance or by soaking them in some form of liquid or pitchy product that is capable of excluding the moisture from the pores of the block. The blocks are located at suitable intervals and tie the opposite faces of the wall together.

The side plates 2 and 3 are held in their proper relative position by means of bars 10 tapered from one end toward the other

to facilitate driving them out of the wall, and having oppositely turned lugs 11 at one end to bear on the plates 2, and a slot 12 at the other end to receive a locking key 13 by means of which the side plates are drawn together and firmly held during the molding operation. The mold having been set up with the core plate in place the spaces between the core plate and the side plates 2 and 3 are filled with the concrete mixture of suitable consistency.

The core plate is provided with a series of recesses 6' in its lower edge to receive the tie-blocks 8, said blocks being placed upon the top of the wall and the core plate inserted between the side boards until its lower edge rests upon top of the tie-blocks, as indicated in Fig. 1. The concrete is then poured into the mold until the spaces between the core plate and the side boards are filled. The side plates and the core plates are then raised as soon as the concrete is set sufficiently, and the operation described is repeated.

The tie-bars 10 are used as indicated in Fig. 1, at the joints between contiguous side boards, the lugs on one side bearing on the end of one board and those on the other side of the bar bearing on the adjoining board. These tie-bars may be left in the concrete until the substance has hardened sufficiently to allow them to be driven out. This operation of raising the sides of the mold and the core plate and filling the spaces between them, is repeated until the desired height of wall has been formed.

At the corners the adjoining side boards are preferably secured together by angle straps 14 and 15. The core plate is plainly indicated in this figure with the bars 7 at intervals to facilitate raising it. The width of the wall may be varied by using tie-bars of different length, and the air space between the opposite faces of the wall may be increased or decreased by using core plates of different thickness. As the side plates are raised in the process of molding the wall they may be supported on the ends of the tie-bars beneath, being held in their relative position by the bars passing through the joints at the ends of the plates.

The side boards as indicated in Fig. 1, are tongued and grooved at 2', and their abutting ends have recesses 3' to receive the tie-bars 10. The under side of each cross bar 7

on the core 6 is provided with recesses 7' to receive the upper edges of the side boards and prevent the boards from swaying during the operation of filling the mold. The interlocking longitudinal edges of the boards will also prevent sidewise or lateral movement.

I claim as my invention:

1. An apparatus for molding a monolithic wall, comprising side plates arranged with a space between them, the plates on the same side of the wall having their ends abutting one another, tie-plates bridging the wall and having their ends extending through the joints of adjoining side plates, said tie-plates having oppositely turned lugs at one end to engage said side plates, and slots and tapered keys therefor at the other end, whereby said plates will be locked in parallel relation with one another, and core plates tapered from their upper toward their lower edges and suspended between said side plates, whereby an air space will be formed between the opposite faces of the wall, when molded, and cross bars interlocking with the

upper edges of said side plates and supporting said core plates substantially as described.

2. An apparatus for molding a monolithic wall, comprising side plates arranged in parallel relation with one another, tie-bars connecting said plates, core plates arranged to be suspended between said side plates and spaced therefrom, said side plates and said core plates being moved vertically as the sections of wall are molded, and tie-blocks arranged to rest upon the wall sections and bridge the space formed by said core plates, and the lower edges of said core plates having recesses therein to receive said tie-blocks, and each tie-block being embedded in the wall sections as the successive sections are formed, substantially as described.

In witness whereof, I have hereunto set my hand this 31st day of January 1908.

THEODORE H. BROWN.

Witnesses:

RICHARD PAUL,
J. A. BYINGTON.