

F. P. LAWRENCE.
 WATERPROOF CONCRETE CONSTRUCTION.
 APPLICATION FILED SEPT. 21, 1908.

954,814.

Patented Apr. 12, 1910.

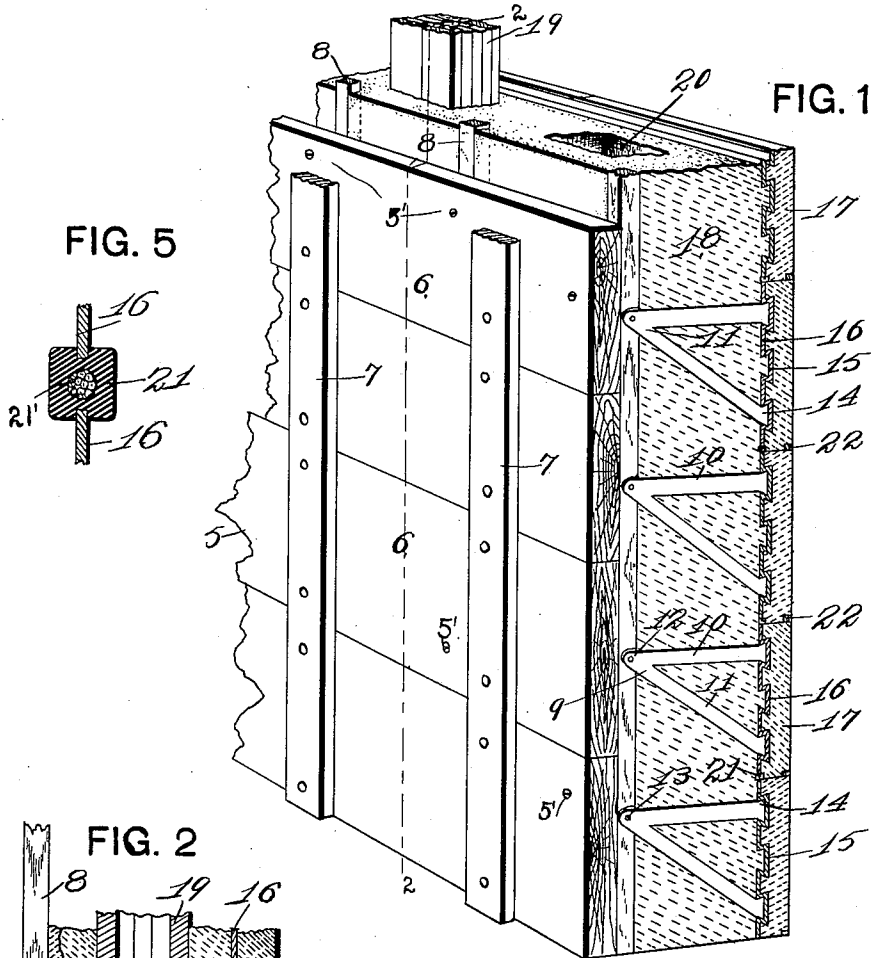


FIG. 5

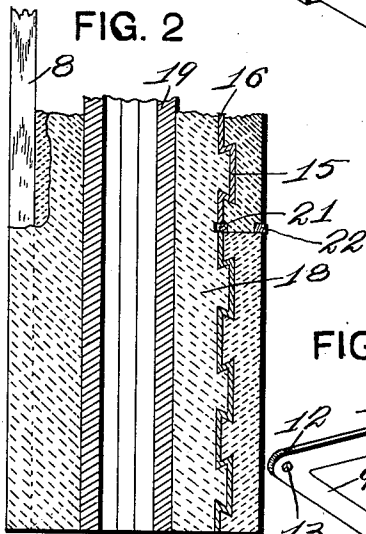
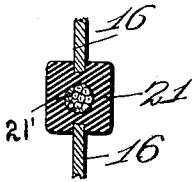


FIG. 2

FIG. 3

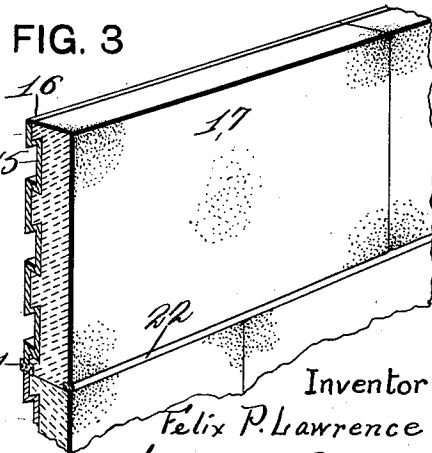
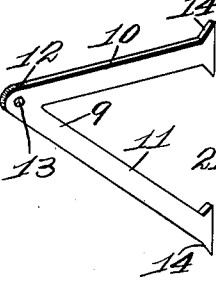


FIG. 4



Witnesses:
 W. C. Stein
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UNITED STATES PATENT OFFICE.

FELIX P. LAWRENCE, OF ST. LOUIS, MISSOURI.

WATERPROOF CONCRETE CONSTRUCTION.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FELIX P. LAWRENCE, a citizen of the United States, and resident of St. Louis, Missouri, have invented certain new and useful Improvements in Water-proof Concrete Construction, of which the following is a specification.

This invention relates to improvements in a water-proof concrete construction and consists in the novel arrangement, construction and combination of parts as will be fully hereinafter described and claimed.

The object of my invention is to construct a wall or other device of concrete having a layer of water-proof material so arranged and located as to prevent moisture from entering the wall and seeping through the wall to the interior.

Figure 1 is a perspective view of a portion of a wall showing my invention. Fig. 2 is a vertical sectional view of the same, taken along the line 2 of Fig. 1 with the boards 6 removed. Fig. 3 is a perspective view of a portion of the exterior of the finished wall. Fig. 4 is an enlarged perspective view of one of the brackets 9. Fig. 5 is a transverse sectional view of the water-proof strip 21 with the inserted edges of the water-proof sheet 16 in place.

In constructing a wall of concrete, I first build a temporary supporting frame 5 consisting of boards 6 connected together by the cross-bars 7. This frame is made either perfectly perpendicular or inclined to the interior or opposite side of the frame and at suitable intervals apart, I attach studding 8 to which the lathing or interior wood-work may be attached; the said studding being held in position against the frame 5 by screws 5' or the like so that the frame may be removed from the studding after the wall has been constructed and set. After the studding and frame have been placed in proper position, I attach to the studding a bracket 9 consisting of a horizontal arm 10 and a slanted arm 11. The end 12 which is attached to the studding is provided with an eye 13 through which the nail or such is passed. The opposite ends of the arms 10 and 11 are dove-tailed as indicated by the numeral 14 and are of a shape to correspond with the dove-tailed grooves 15 formed in the water-proof sheet 16 which is preferably composed of a thin metallic sheet.

The water-proof sheets are shaped with alternate dove-tailed grooves as shown and

on one surface thereof is placed a block of concrete 17 preferably constructed at any convenient place and provided with an outer surface of any desirable design so as to imitate rough or cut stone and when the brackets 9 are attached to the studding the dove-tailed ends are inserted in the dove-tailed grooves 15 as shown in Fig. 1 supporting the block in a vertical position. These blocks are built one upon the other to form a wall of any length and height desired and in the space between the blocks and the frame 5 is placed concrete 18. In said space, before the concrete is poured in place, I place at suitable intervals a core 19. After the concrete has been poured between the blocks and frame and has set, the cores may be removed, leaving a wall having air passages 20.

In order to prevent leakage between the joining edges of the sheets, I place a strip of material 21 such as tar or the like molded over a strand of cord or other flexible material 21', the edges of the water-proof sheet embedding in the tar making a leak-proof joint. I place on the outside a wooden or metallic strip 22 which temporarily plugs the groove between the joining edges of the blocks supporting the same and said strips being removed after the wall has set, the said grooves are properly filled by inserting therein mortar or cement so as to have the appearance of a stone set wall.

The essential feature of my invention is the application of a water-proof strip between the outer surface of the wall and the main wall so as to prevent all moisture and seepage of rain from contacting with the main wall and moistening the interior of the building.

The outer blocks are held in rigid position against the surface of the water-proof strip by means of the material or concrete comprising the block embedding itself in the dove-tailed grooves. The material forming the wall proper in connection with the brackets 9 also hold the water-proof strip and blocks in position by means of the material or concrete setting in the dove-tailed grooves formed in the plate.

Having fully described my invention what I claim is:

1. A device of the class described comprising a plurality of concrete blocks arranged to form a wall; a strip of dove-tailed water-proof material covering the rear face of said wall; a plurality of vertically ar-

5 ranged studding; brackets connected to the studding; the opposite ends of said brackets supported in the dove-tailed grooves formed in the strips; and a concrete wall enveloping the brackets and supporting the studding, water-proof strips and blocks, substantially as specified.

10 2. In a concrete wall construction, comprising a hollow concrete wall; a strip of water-proof material supported on one side of said wall and forming a vertical layer or partition throughout the extent of the wall; vertically mounted studding embedded in said wall; means for connecting the water-
15 proof strip with the studding, and said wall being provided on the outer surface of the water-proof strip with a facing of concrete blocks, substantially as specified.

3. A concrete wall provided with verti-

cally arranged studs embedded in one face 20 thereof, and provided with a facing of blocks on the other surface, said blocks being provided with dovetailed grooves on their rear faces, a covering of water-proof material extending over the rear faces of said blocks, 25 a strip of material connecting the meeting edges of the water-proof material to prevent leakage between the same, and a plurality of brackets connected to the tiles by means of the dovetailed grooves and also connected to 30 the studding, substantially as described.

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

FELIX P. LAWRENCE.

Witnesses:

JAMES L. HOPKINS,
WALTER C. STEIN.