No. 709,791.

Patented Sept. 23, 1902.

A. McDOUGALL.

ARTIFICIAL STONE BOARD.

(Application filed Nov. 14, 1901.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1

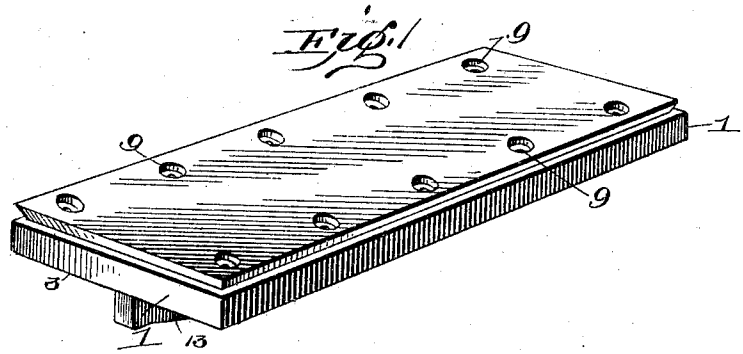


Fig. 2.

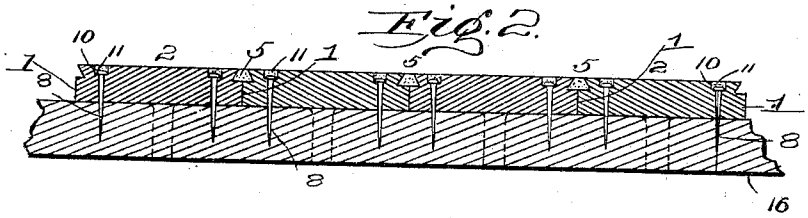


Fig. 3.

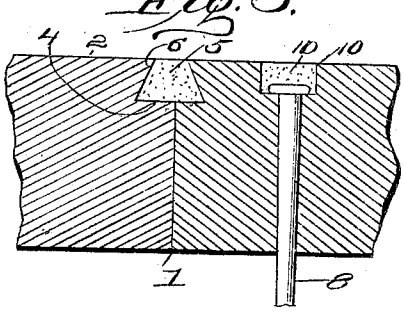


Fig. 4

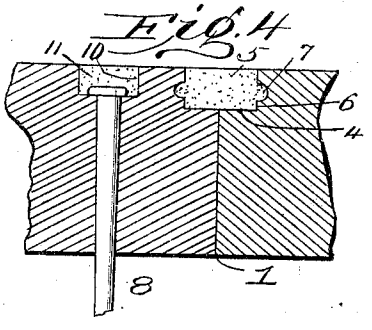
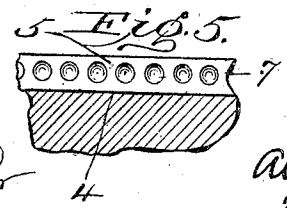


Fig. 5.



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No. 709,791. Patented Sept. 23, 1902.

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2 Sheets—Sheet 2.

Fig. 6

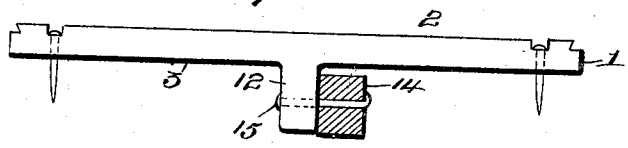


Fig. 7.

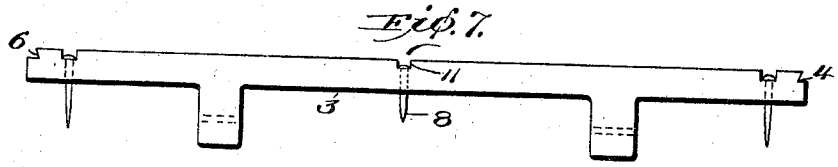


Fig. 8.

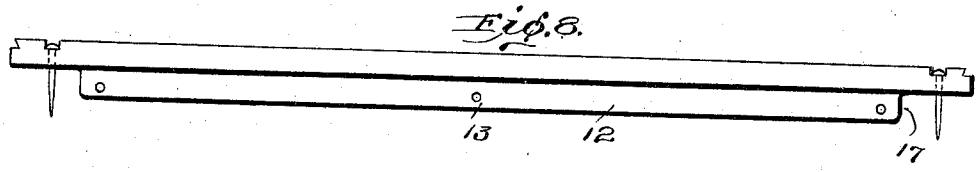


Fig. 9.

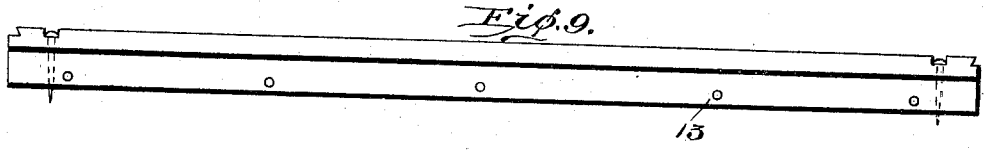


Fig. 10

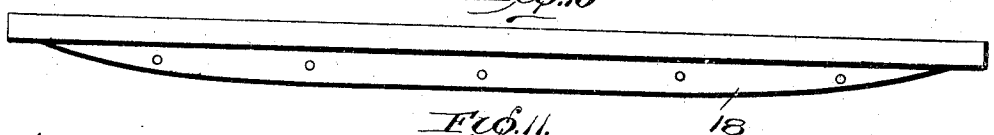
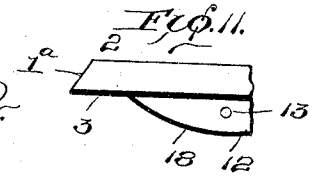


Fig. 11.



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UNITED STATES PATENT OFFICE.

ALEXANDER McDOUGALL, OF DULUTH, MINNESOTA.

ARTIFICIAL-STONE BOARD.

SPECIFICATION forming part of Letters Patent No. 709,791, dated September 23, 1902.

Application filed November 14, 1901. Serial No. 82,282. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER McDOUGALL, a citizen of the United States, residing at Duluth, in the county of St. Louis and State of Minnesota, have invented certain new and useful Improvements in Artificial-Stone Boards, of which the following is a specification.

This invention relates to improvements in artificial-stone board to be used in building walls, floors, roofs, as a facing for walls or for sidewalks, and all similar uses.

The invention consists in a board of peculiar conformation composed of a mixture of cement, sand, gravel, and broken stone. Baked clay, terra-cotta, or cut stone may be used in lieu of the composition.

My invention is characterized by a board which is of a generally-rectangular shape, with square edges and with a longitudinal web or rib at the back. The upper portion of each edge is cut away, forming a recess for containing a binding material, such as cement. Means are provided to retain this binding material when old or if the board should shrink. This means may consist in either dovetailing the cut-away portion, thus forming an overhanging lip, or in providing a sufficient number of indentations on the edge of the cut-away portion to form an engaging surface for anchoring the binding material. The necessary nail or screw holes are located at a short distance away from the edge of the board and are countersunk to admit of cement or other material being applied to cover the nail or screw heads. The back of the board is provided with an integral longitudinal web or rib provided at intervals with nail or screw holes for attachment to a wooden beam or frame.

My invention possesses many advantages over other boards. By using straight-edged boards they can be secured in position much more expeditiously than if they were lap-jointed or tongue-and-grooved, yet the binding material applied to the upper edge of the joint will make the surface practically continuous. By having the nail-holes removed from the joint additional strength is secured, as the fastening can pass through the entire thickness of the board. By using means for retaining the binding material the parts are held with greater security than if a tongue-and-groove construction without binding material were used.

In order to better understand the nature of my invention, attention is directed to the accompanying drawings, in which—

Figure 1 is a perspective view of a board. Fig. 2 is a sectional view of a floor formed of my improved boards attached to a cross-beam. Fig. 3 is an enlarged sectional view of the joint. Fig. 4 is an enlarged sectional view of a modified form of joint. Fig. 5 is a side view of the upper portion of a board as is shown in Fig. 4. Fig. 6 is a sectional view of a board having attached thereto lining-strips. Fig. 7 is a modification with two webs. Fig. 8 is a side view of a board. Fig. 9 is a modification. Fig. 10 is a modification, and Fig. 11 is a modified form of the edge shown in Fig. 10.

In all the several views like parts are designated by similar numerals of reference.

The board is preferably rectangular, as is shown in Fig. 1, with a square edge 1 and plane top 2 and bottom 3, or the edge may be beveled at 1^a, as shown in Fig. 11. A cut-away portion 4 forms a recess or trough for the reception of the binding material 5 for making a tight closure for the joints. The binding material is retained in position by either dovetailing the edge 6, as is shown in Fig. 3, or providing the edge with a sufficient number of indentations 7 to serve as an anchor for the cement. The fastening 8, either a nail, pin, bolt, or screw, passes through an opening 9, countersunk at 10 for the head of the fastening, which is driven into the cross-timbers 16. The countersink 10 is sufficiently large to admit a quantity of cement 11 to cover the head of the fastening and form a surface flush with the top 2 of the board.

When laid, a surface practically continuous will be formed. The retaining means for the binding material will hold the latter in place when old or if the boards from any cause shrink or are displaced.

The binding material may be either cement, lead, pitch, or other suitable material.

The longitudinal web or rib 12 is preferably formed integrally with the board. It may be attached to the frame or other foundation by suitable fastenings 15, which pass

through holes 13, made at suitable intervals through the entire thickness of the web. The wooden member 14 of the frame or foundation may form a backing for the attachment of laths in buildings or it may be a part of the supporting-framework. In certain instances when the cross-timbers 16 are used in construction in connection with the longitudinal member 14 the web or rib is abruptly interrupted, as at 17, or gradually, as at 18, to admit them. When the cross-timbers or frame are not used, the web may extend the entire length of the board, as shown in Fig. 9.

The fastenings 15 may be nails, screws, or any other suitable and well-known means.

By the use of the integral web, the side of which is attached to the scantling 14, a board of six feet or more in length can be used for industrial purposes, such as sidewalks, house-siding, or roofs. When desired, the cut-away edge may be omitted, as shown in Fig. 10. With this form no binding material at all is used.

Having now described my invention, I claim—

1. As an improvement in artificial-stone boards, the combination with the four square edges 1, and the integral web or rib 12, removed some distance from the edges, the said web being of greatest depth adjacent to its center, the depth diminishing gradually toward each end, substantially as set forth.

2. As an improvement in artificial-stone boards, the combination with the four square edges 1, and the integral web or rib 12 removed some distance from the edges with horizontal perforations 13 for the passage of attaching means, substantially as set forth.

3. As an improvement in artificial-stone boards, the combination with the square edges 1, and the integral web or rib 12 interrupted at 17, adjacent to each end, and with horizontal perforations 13 for the passage of attaching means, substantially as set forth.

4. As an improvement in artificial-stone boards, the combination of the square edges 1, with cut-away portions 4, retaining means for the binding material, and the integral web or rib 12, with horizontal perforations 13, for the passage of attaching means, substantially as set forth.

5. As an improvement in artificial-stone boards, the combination of the square edges 1, with cut-away portions 4, retaining means for the binding material, and the integral web or rib 12, interrupted at 17, adjacent to each end, substantially as set forth.

6. As an improvement in artificial-stone boards, the combination of the square edges 1, with cut-away portions 4, retaining means for the binding material, and the integral web, or rib 12, interrupted at 17, adjacent to each end, and with horizontal perforations 13, for the passage of attaching means, substantially as set forth.

7. As an improvement in artificial-stone boards, the combination with the square edges 1, the cut-away portions 4, and dovetailed edges 6, forming retaining means for the binding material, and the integral web, or rib 12, with horizontal perforations 13, for the passage of the attaching means, substantially as set forth.

8. As an improvement in artificial-stone boards, the combination with the square edges 1, the cut-away portions 4, and dovetailed edges 6, forming retaining means for the binding material and the integral web or rib 12, interrupted at 17, adjacent to each end substantially as set forth.

9. As an improvement in artificial-stone boards, the combination with the square edges 1, the cut-away portions 4, the dovetailed edges 6, forming retaining means for the binding material, and the integral web or rib 12, interrupted at 17, adjacent to each end, and with horizontal perforations 13, for the passage of attaching means, substantially as set forth.

10. As an improvement in artificial-stone boards, the combination of the square edges 1, with cut-away portions 4, retaining means for the binding material, and holes 9, through the entire thickness of the board, for fastenings, substantially as set forth.

11. As an improvement in artificial-stone boards, the combination of the square edges 1, with cut-away portions 4, dovetailed edges 6, forming retaining means for the binding material, and holes 9, through the entire thickness of the board for fastenings, substantially as set forth.

This specification signed and witnessed this 6th day of November, 1901.

ALEXANDER McDOUGALL.

Witnesses:
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