N. FRISCHMANN.

CEMENT BUILDING.

APPLICATION FILED DEC. 23, 1919.

1,375,788.

Patented Apr. 26, 1921.

Fig. 1.

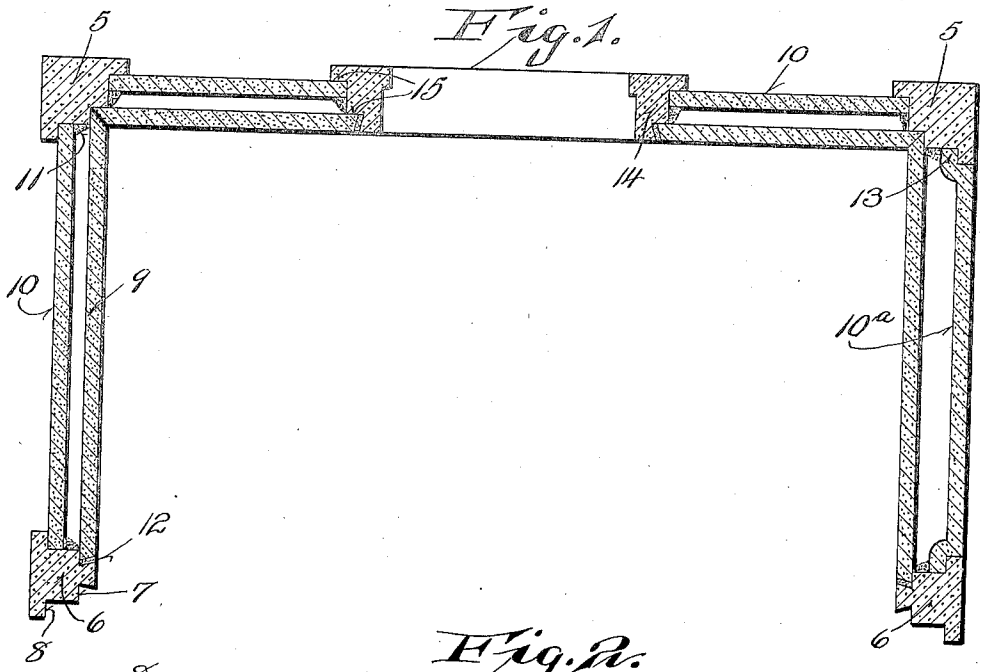


Fig. 2.

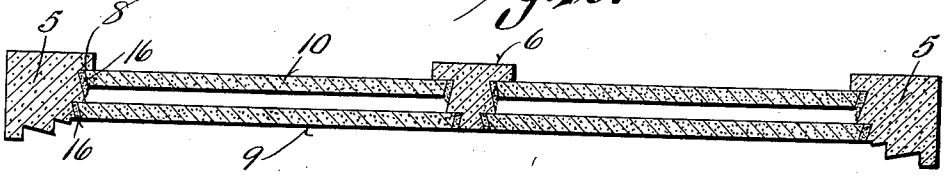


Fig. 3.

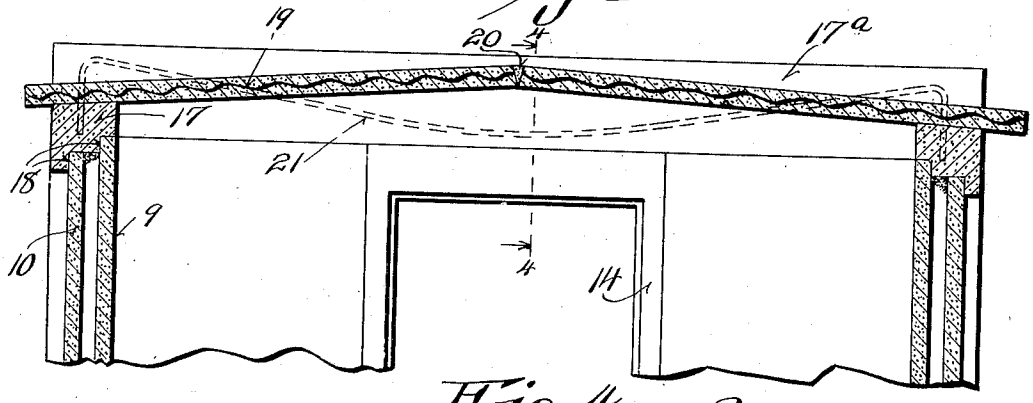
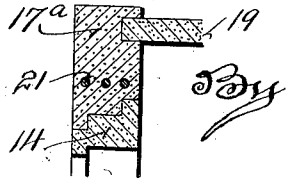


Fig. 4.



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UNITED STATES PATENT OFFICE.

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CEMENT BUILDING.

1,375,788. Specification of Letters Patent. Patented Apr. 26, 1921.

Application filed December 23, 1919. Serial No. 346,858.

To all whom it may concern:

Be it known that I, NICHOLAS FRISCHMANN, a citizen of the United States, and resident of St. Francis, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Cement Building; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to new and useful improvements in concrete building construction.

It is primarily the object of my invention to provide an improved concrete building construction wherein the wall panels of the building may be molded separately from the building and then mounted in place, thus greatly facilitating the molding operation of said panels and permitting a maximum thinness of the panels which is highly desirable in the provision of a double wall structure to provide a dead air space within the wall and thus provide an adequate heat insulation for the wall.

It is more particularly my object to provide an arrangement for procuring interlocking relation of the separately molded wall panels with suitable wall columns which are cast in place.

A still further object resides in the provision of an arrangement wherein molded window and door frames may be embodied in the wall panel structure.

A still further object resides in the provision of a roof structure coöperating with a wall structure embodying the afore recited objects, and wherein the body of the roof may be formed of separately molded panels similar to the wall panels.

With the above and other objects and advantages in view, which will be apparent as the description proceeds, my invention resides in the novel features of construction, combination and arrangement of the parts as hereinafter described and defined by the appended claims.

In the accompanying drawings:

Figure 1 is a horizontal sectional view through the wall structure of a building embodying my invention.

Fig. 2 is a similar view showing a slightly modified structure.

Fig. 3 is a vertical sectional view through a roof and adjacent wall structure embodying my invention.

Fig. 4 is a detail sectional view on the line 4—4 of Fig. 3.

Referring now more particularly to the drawings, 5 designates each of a pair of concrete wall columns, which are preferably molded in place on the foundation of the building, and 6 designates each of a plurality of intermediate wall columns. Each of these columns is provided in a pair of sides with a pair of stepped inner shoulders and outer shoulders 7 and 8, the shoulders of the corner panel 6 being formed in adjacent sides of each column whereby to provide for angular relation of the wall panels associated therewith, while the shoulders of each intermediate column are formed in opposite sides thereof. The inner and outer wall panels 9 and 10 respectively are molded in flat sheets on the ground in the most suitable manner. They are then applied to the walls, seating against the corresponding shoulders of the columns, it being noted that the outer panel 10 would in each instance be of slightly lesser width than its corresponding inner panel 9 by reason of the stepped relation of the seating shoulders 7 and 8. In the structure of Fig. 1, the ends of the side edges of the outer panels are disposed at right angles to the planes of the panels, and the panels are held against the shoulders 8 by the application of cement 11 to their edge portions. The edge faces of the panels 9, however, are beveled inwardly toward the inner side of the panel and the inner side portions of the columns 6 are similarly beveled. When the panels 9 are engaged against the shoulders of the corner column 5 their beveled edge faces are in mutual engagement, and when the edge faces of the panel are engaged against the shoulders of the intermediate wall columns 6, a slight spacing of said edge faces from the column is provided by reason of the bevel of both members and a key body 12 of cement is inserted in the space, thus securely locking the panel in place. When it is desired to provide a wall having an entirely flat exterior surface an outer wall panel such as shown at 10^a may be provided, having its edge portions inwardly offset at 13 to engage the column shoulders 8, the outer face of the panel thus lying flush with the outer faces of the columns.

When it is desired to provide a window in my improved wall structure, I provide a

molded rectangular window frame 14 having its outer portions provided with stepped shoulders 15 similar to the shoulders of the wall columns, and the adjacent panels are properly shaped to fit between the members of this window frame and the adjacent columns, as shown in Fig. 1.

In Fig. 2, a slightly modified structure is shown wherein the side edges of both the inner and outer panels are beveled to procure a positive interlocking relation with the correspondingly beveled column sides by the insertion of key bodies 16 of cement between the side edge faces of the panels and the opposed face portions of the columns when the panels are seated against the shoulders 7 and 8 of the columns. As shown in Fig. 3, the upper ends of the wall columns are connected by roof sills 17 having their bottom portions provided with stepped shoulders for seating the upper edges of the wall panels, said shoulders, as shown in Fig. 4 being adapted to also engage the stepped shoulders of the upper sill of the window frame 14 when it is desired to extend said window frame to this height. Otherwise, relatively small panel sections may be provided between the window frame and the roof sill, as will be obvious. For mounting roof panels 19 in proper inclined position, I provide an opposed pair of roof sills designated at 17^a of considerably greater height than the other roof sills. The inner faces of the sills 17^a are formed with recesses extending in slightly inclined position from the top of the sills 17 to a central point adjacent the top of the sills 17^a, and the side edges of the roof panels are inserted in these recesses, the outer ends of the panels thus resting squarely on the lower sills 17. A sealing body of cement 20 is disposed between the inner ends of the panels 19. These roof panels are molded on the ground similar to the wall panels 9 and 10 and are then set up in place, thus greatly facilitating the building of structures of this character. Reinforce members 21 extend longitudinally through the roof sill sections 17^a and are downwardly bowed from the ends thereof, thus forming tension members of a truss structure and provide relatively great strength in the roof in a most compact manner.

What is claimed is:

1. In a concrete building construction, a pair of wall columns having inwardly facing stepped shoulders in their opposite sides, bonding members connecting the columns and having similar shoulders, and concrete slabs having their edge portions secured against corresponding inner faces of said shoulders, whereby said slabs are held by said shoulders in spaced relation against outward movement, and key bodies of cement disposed against the inner edge face of the slabs to hold the same against inward movement.

2. In a concrete building construction, a pair of wall columns provided with pairs of inwardly facing stepped shoulders in their opposite sides, a molded cemented frame between said columns and provided with inwardly facing stepped shoulders in its sides extending toward the shoulders in the columns and pairs of wall panels disposed between the sides of the frames and the wall columns, and engaged against the inner faces of said stepped shoulders of the frame sides and wall columns, whereby said panels are held by said shoulders in spaced relation against inward movement, and key bodies of cement disposed against the inner edge faces of the panels to hold the same against inward movement.

3. In a concrete building construction, a plurality of wall columns, pairs of opposed roof sills mounted on said wall columns, wall panels engaged with said columns and roof sills, one pair of roof sills being of greater height than the other pair of roof sills and provided with grooves in their inner sides inclined upwardly from the tops of said other roof sills to the central upper portions of said higher roof sills and roof panels having their side edge portions engaged in said grooves and having their outer edge portions seating on the lower roof sills.

In testimony that I claim the foregoing I have hereunto set my hand at St. Francis, in the county of Milwaukee and State of Wisconsin.

NICHOLAS FRISCHMANN.