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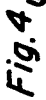
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## CONCRETE BUILDING CONSTRUCTION

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2 SHEETS—SHEET 2



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## UNITED STATES PATENT OFFICE

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## CONCRETE BUILDING CONSTRUCTION

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3 Claims. (Cl. 72-1)

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This invention relates to masonry and concrete structures, and more particularly to a building construction formed of precast wall and floor elements which are secured together in a manner so as to provide a substantially weather-tight and strong concrete building.

An object of this invention is to provide a means for fastening wall units and partitions together so as to form a relatively strong structure while permitting the walls and partitions to expand and contract relative to the flooring, thus eliminating cracks and distortions in the masonry and concrete construction of a building using similar wall slabs and partitions.

Another object of this invention is to provide a means for securing a pair of adjacent wall units to a partition so as to provide an expansion joint connection between the adjacent wall units, thus minimizing the possibility of cracks forming in the wall units.

A further object of this invention is to provide wall units of comparatively great size which may be cast in a flat or prone position and subsequently raised to be fitted onto the flooring which is supported by a suitable footing after the castings have set.

Still further objects of the invention reside in the provision of a concrete building construction that is strong, durable, highly resistant to cracking, simple in construction, the units of which are capable of being easily molded and which is relatively inexpensive.

These, together with the various ancillary objects of the invention which will become apparent as the following description proceeds, are attained by this factory building construction, a preferred embodiment of which has been illustrated in the accompanying drawings, by way of example only, wherein:

Figure 1 is an elevational view of the invention with parts thereof being shown in section for greater detail;

Figure 2 is a horizontal sectional view as taken along the line 2-2 in Figure 1;

Figure 3 is a vertical sectional detail as taken along the line 3-3 in Figure 2;

Figure 4 is another vertical sectional detail as taken along the line 4-4 in Figure 2; and

Figure 5 is a perspective detail showing the construction of a preferred form of wall unit.

With continuing reference to the accompanying drawings, wherein like reference numerals designate similar parts throughout the various views, reference numeral 10 generally designates the concrete building construction comprising

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the present invention which includes suitable footings or foundations 12 on which a flooring 14 is cast or laid. Obviously, the flooring 14 may be cast in situ or may be formed of suitable pre-cast concrete slabs which are held together by a suitable mortar.

There is an inwardly downwardly sloping groove 16 in the periphery of the flooring 14 which terminates in a shoulder 18. Additionally, a plurality of recesses 20 are formed in the flooring 14 in communication with the groove 16.

A plurality of wall units 22 provided with an inwardly and downwardly extending beveled edge 24 are positioned on the flooring in the groove 16. The wall units 22 are provided with a plurality of bolts 26 extending therethrough thus reinforcing the wall units. The bolts 26 hold affixed to the lower edge 24 of the slabs 22 a resilient member or gasket 28 thus forming an expansion unit between the wall units 22 and the flooring 14. An inverted channel member 30 is provided on the top of the wall units 22 and the bolts 26 extend therethrough to hold a wooden capping member 32 in place thereon. When the wall units 22 are positioned on the flooring the lower end of the bolts 26 extend into the recesses 20 which have been filled with grout. Upon hardening of the grout a very satisfactory construction is achieved.

There are a plurality of transversely extending grooves 32 formed in the flooring 14 and partitions 34 are provided with projecting tongues 36 thereof seated in the grooves 32. However, the tongues 36 are not large enough to freely occupy the grooves 32, hence conduits and the like may be positioned in the grooves and subsequently sealed in a suitable mortar or grout. The partitions 34 are each provided with an inverted channel member 40 through which the bolts 42 extend to hold a capping member 44 duly affixed thereto. Suitable anchor bolts 46 are set in the side edges of the partitions 34 and these bolts extend through adjacent wall units 22 to secure the wall units 22 to each other and to the partitions 34. This is due to the 45 degree miter joint or the like which is formed in each of the wall units. A flexible gasket or sealing member 48 is provided between the adjacent wall unit so as to insure a joint capable of withstanding expansion and contraction of the wall units thus minimizing cracking which might otherwise occur in this construction. It is to be noted that each of the anchor bolts 46 are provided with washers and anchor nuts 47 which are then covered with cement. The bolts are countersunk

as are the washers to provide a flush and attractive finished wall. As is indicated by the reference numeral 50 the wall units forming the corners of the building construction are provided with bolts for securing the units together. These bolts 50 are anchored in one of the units and extend through suitable apertures in the other so that they may be held in place by a suitable washer and nut 51 and thence covered with a finishing coating of cement or mortar.

Referring now to Figure 5, wherein it is shown a preferred form of wall unit it will be seen that suitable openings 54 can be provided for doors and windows and the framing of the doors and windows can be integrally formed and cast with the panels or wall units 22. Likewise, ribs 56 may be formed integrally with the wall units 22 and nailing strips 58 may be affixed to the ribs 56 so that lathing may be secured thereto to hold a finish coat of plaster in place on the inner wall surfaces. Obviously, suitable insulation can be affixed between the lathing and the wall unit to increase the thermal insulative qualities of this construction.

Since from the foregoing the construction and advantages of this concrete building construction are readily apparent, further description is believed to be unnecessary.

However, since numerous modifications will readily occur to those skilled in the art after a consideration of the foregoing specification and accompanying drawings, it is not intended to limit the invention to the precise embodiment shown and described, but all suitable modifications and equivalents may be readily resorted to which fall within the scope of the appended claims.

Having described the invention, what is claimed as new is:

1. A building construction comprising a foundation, a flooring supported by said foundation, said flooring having an inwardly and downwardly sloping peripheral groove therein, a plurality of recesses in said flooring in communication with said groove and a plurality of wall units, each of said units having an inwardly downwardly beveled edge, a plurality of bolts extending vertically through said wall units, resilient means attached to said beveled edge of each of said wall units, said bolts holding said means to said wall units, said wall units being positioned on said flooring with said beveled edge in said sloping groove and with the lower ends of said bolts in said recesses, and said resilient means forming an expansion joint between said flooring and said wall units.

2. A building construction comprising a foundation, a flooring supported by said foundation, said flooring having an inwardly and downwardly sloping peripheral groove therein, a plurality of recesses in said flooring in communication with said groove, and a plurality of wall units, each of said units having an inwardly downwardly beveled edge, a plurality of bolts extending vertically through said wall units, resilient means attached to said beveled edge of each of said wall units, said bolts holding said means to said wall units, said wall units being positioned on said flooring with said beveled edge in said sloping groove and with the lower ends of said bolts in

said recesses, and said resilient means forming an expansion joint between said flooring and said wall units, a groove in said flooring, a partition unit having a projecting tongue in the bottom edge thereof, said partition being positioned on said flooring with said tongue in said groove, anchor bolts set in said partition and extending out of said partition, said anchor bolts extending through each of a pair of adjacent wall units to hold said wall units in relative position to each other to the partition and to the flooring, and flexible means between said adjacent wall units to form an expansion joint, an inverted channel member on each of said wall units, and a wooden cap on said channel members, said first-named bolts extending through said channel members and the wooden cap to secure the latter thereon.

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3. A building construction comprising a foundation, a flooring supported by said foundation, said flooring having an inwardly and downwardly sloping peripheral groove therein, a plurality of recesses in said flooring in communication with said groove, and a plurality of wall units, each of said units having an inwardly downwardly beveled edge, a plurality of bolts extending vertically through said wall units, resilient means attached to said beveled edge of each of said wall units, said bolts holding said means to said wall units, said wall units being positioned on said flooring with said beveled edge in said sloping groove and with the lower ends of said bolts in said recesses, and said resilient means forming an expansion joint between said flooring and said wall units, a groove in said flooring, a partition unit having a projecting tongue in the bottom edge thereof, said partition being positioned on said flooring with said tongue in said groove, anchor bolts set in said partition and extending out of said partition, said anchor bolts extending through each of a pair of adjacent wall units to hold said wall units in relative position to each other to the partition and to the flooring, and flexible means between said adjacent wall units to form an expansion joint, an inverted channel member on each of said wall units, a wooden cap on said channel members, said first-named bolts extending through said channel members and the wooden cap to secure the latter thereon, an inverted channel member on the top edge of the partition, a wooden cap member on the last-named channel member, and other bolts in said partition extending through the last-named channel member and the wooden cap member to secure the latter thereon.

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