Dec. 20, 1932. V. V. PITTMAN 1,891,837

CONCRETE UNIT FOR WALL CONSTRUCTION

Original Filed July 23, 1929 2 Sheets-Sheet 1

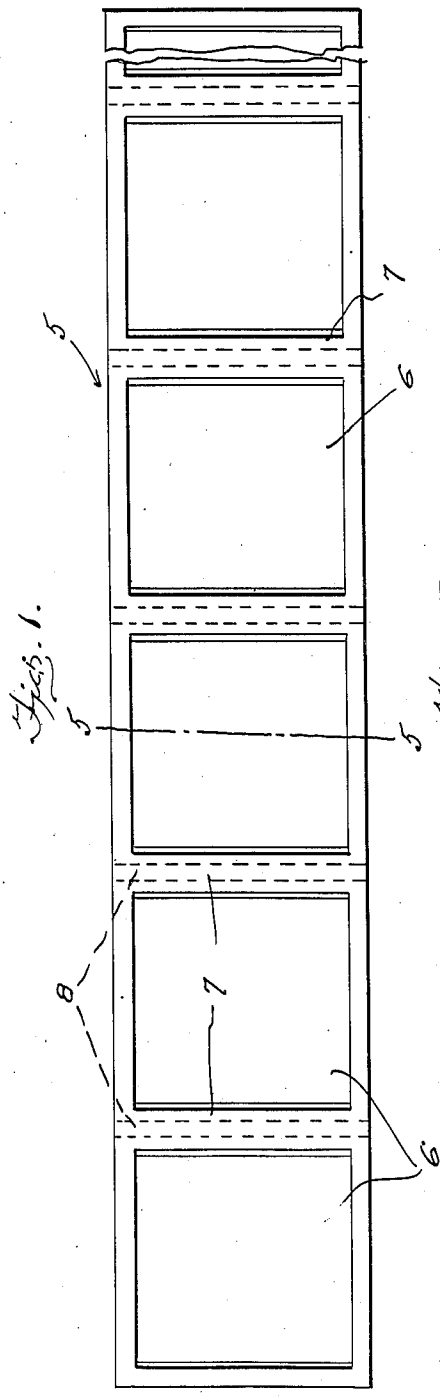


Fig. 1.

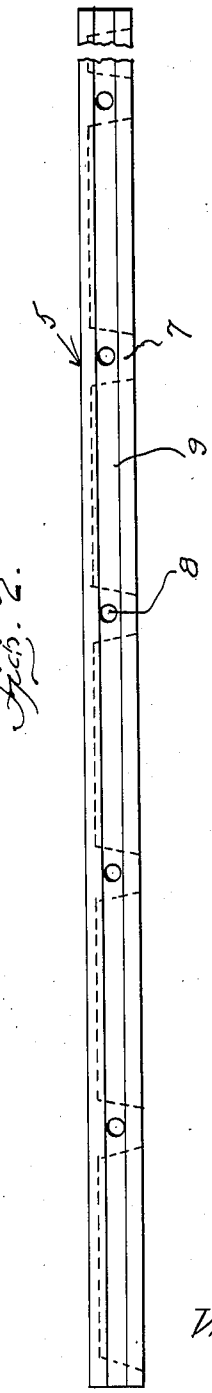


Fig. 2.

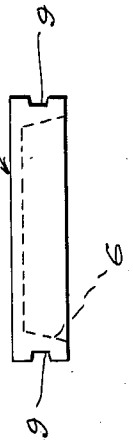


Fig. 3.

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Fig. 4.

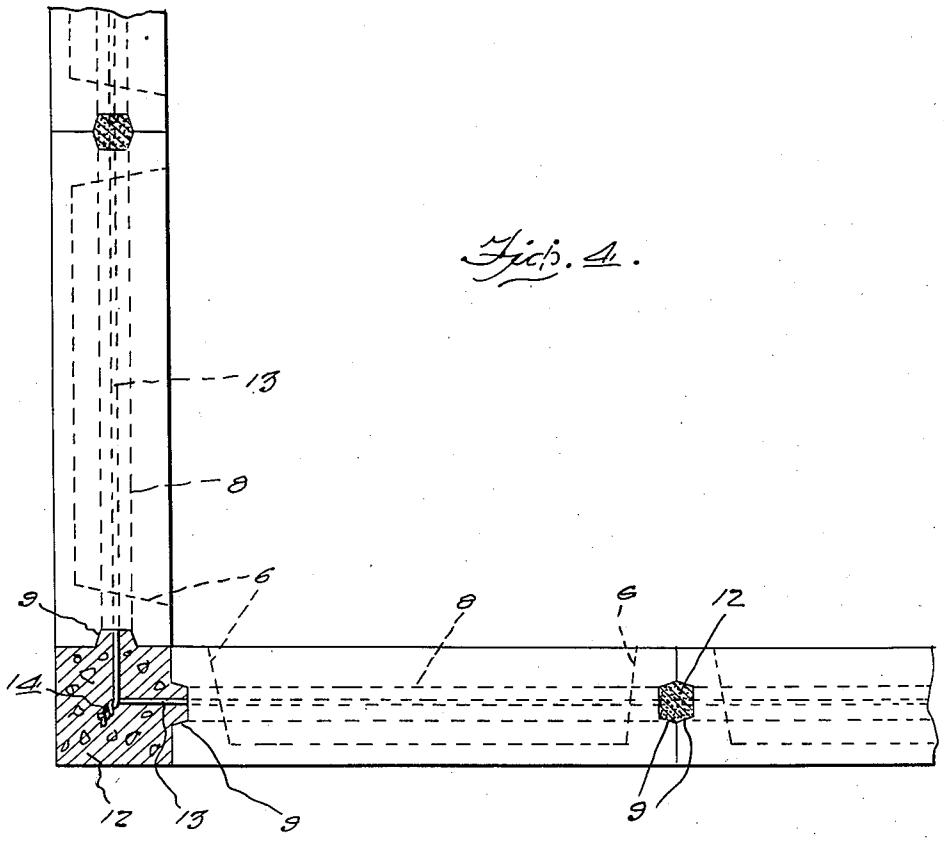
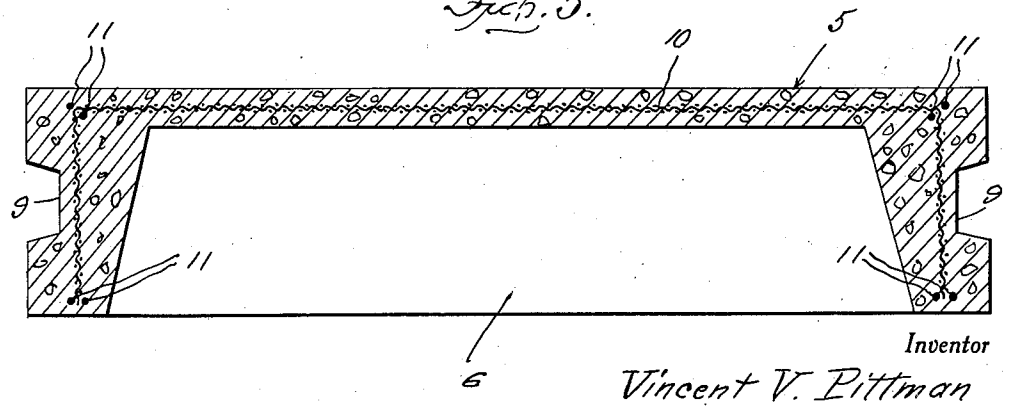


Fig. 5.



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UNITED STATES PATENT OFFICE

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CONCRETE UNIT FOR WALL CONSTRUCTION

Application filed July 23, 1929, Serial No. 380,345. Renewed May 18, 1932.

This invention relates broadly to the construction of concrete walls and more particularly to a concrete unit or as is better known in the art, a panel stone to be used in the construction of such walls.

A further object of the invention is to provide an improved panel stone which is especially adaptable for building garage walls, retaining walls, curtain walls, house walls, roofs, floors, fences, and other walls such as are preferably to be constructed of concrete.

Another very important object of this invention is to provide a concrete unit for units of this type, which when assembled will provide a wall of strong, durable, and lasting construction, the said units being so constructed at their meeting sides as to enable a tight strong connection therebetween, both at the corners of the wall and the intermediacies of the wall.

Other objects and advantages of the invention will become apparent during the course of the following description, taken in connection with the accompanying drawings, wherein:

Figure 1 is a front elevational view of a concrete panel stone or wall unit constructed in accordance with this invention.

Figure 2 is an edge elevation thereof.

Figure 3 is an end view thereof.

Figure 4 is a top plan view of a wall corner formed in accordance with this invention, and clearly illustrating the manner of assembling the units or panel stone.

Figure 5 is a horizontal transverse sectional view, taken substantially on the line 5—5 of Figure 1.

With reference more in detail to the drawings, it will be seen that each of these units or panel stone constructed in accordance with the present invention are designated generally by the reference character 5. These units are in the nature of panels as their names suggest, and consist of an elongated rectangular block, formed from a plastic material, such as may be formed from a mix of wet concrete, sand and cement, of a consistency used in the ordinary pouring of buildings, called wet mix. Each of the units or blocks 5 are provided on one face thereof with a plurality of recesses 6, said recesses being formed therein and arranged on the block in longitudinal alignment so as to provide therebetween a plurality of spaced lateral transversely extending ribs 7. Each of the ribs 7 are longitudinally bored so as to form openings 8, extending therethrough from opposite longitudinal sides of the said block.

Furthermore the block on its longitudinal edges is formed with a longitudinally extending groove 9, the said groove extending for the full length of the block or slab. It is to be noted that the openings 8 formed in the ribs 7 communicate at their ends with the groove 9, this being a salient feature of my invention as will be appreciated as the description proceeds.

Furthermore, each of the units and panels are reinforced through the medium of a steel fabric 10, the slab at its corners being further reinforced with twisted galvanized steel truss bars 11. Such reinforcements are clearly shown in Figure 5.

In practice, the slabs are disposed in the walls either vertically or horizontally, the side edges of the respective slabs being disposed in abutting relation. For the sake of exemplification, in Figure 4, I have shown the panel slabs disposed in the wall in a vertical position, and therein it is to be noted that when the slabs are disposed with their edges in abutting relation, the grooves 9 in the longitudinal side edges of the slab communicate one with the other, forming between the adjacent slabs a suitable chamber for the reception of concrete 12, the concrete or mortar thus providing a vertical mortice joint between the respective panel slabs from the top to the bottom of the wall. Likewise the openings 8 formed in the ribs of the respective panel slabs are thus arranged in alignment so that the openings formed in one unit communicate with the corresponding openings in the next adjacent units, and steel bars 13 may be passed or threaded through the aligned openings of the respective panels, these bars 13 being of such diameter as to leave room in the respective openings 8 for mortar. Thus, when the mortar 12 is poured

between the abutting edges of the respective panel slabs, it will spread into the openings 8 about the rods 13, thus incorporating the rods of steel with the respective slabs and creating in effect a monolithic construction.

As shown also in Figure 4, at the corners, the end slab of the walls have their meeting edges only at the inner adjacent corners of the respective end slabs, the said end slabs being disposed therefor at substantially right angles with their adjacent longitudinal edges also at right angles to each other, the concrete 12 being poured solid at the corners of the building, formed by the wall constructed from these panel slabs, the concrete being of course received into the longitudinal groove 9, of the said end panels or slabs.

Likewise, as shown, the steel bars 13 threaded through the respective slabs extend around the entire building and meet at the corners, the ends of the bars being twisted as at 14, to form a joint between these bars, said twisted ends of the bars being further secured together when the concrete is poured solid as is shown.

From the foregoing then, it will be seen that a wall slab or panel stone constructed as comprehended by this invention will permit the constructon of a strong, well knit wall of concrete, and thus by precasting these standard wall units 5 at a central plant, it will be found that a much cheaper and better wall may be constructed than was customary, as is well known in the art, the customary method of forming such concrete walls, necessitating the building of forms for the reception of concrete, thus entailing great expense and necessitating more time and labor in their construction. Thus the present invention contemplates the building of walls from standard units, which units may be of any length or width according to the desire of the builder or determined according to the height or length of the walls to be built, or the building constructed.

Even though I have herein shown and described the preferred embodiment of my invention, it is to be understood that the same is susceptible to changes fully comprehended by the spirit of the invention and the scope of the appended claim.

What is claimed is:

In a wall construction, a plurality of concrete panels, each of which includes a longitudinally extending body having side and end flanges and a plurality of equidistantly spaced transversely extending ribs connecting the side flanges together, the side flanges having their outer faces provided with longitudinally extending grooves, the rims being provided with openings communicating with the grooves, the side flanges of adjacent panels being adapted to be placed in abutting relation whereby the grooves therein form a closed pocket, reinforcing rods extending through the openings of the ribs of adjacent panels and through the pocket, and a cementitious binder placed in said pocket around the rod.

In testimony whereof I affix my signature.

VINCENT V. PITTMAN.