April 7, 1931. J. B. PAULSON ET AL 1,799,313

BUILDING CONSTRUCTION AND UNIT

Filed March 14, 1929

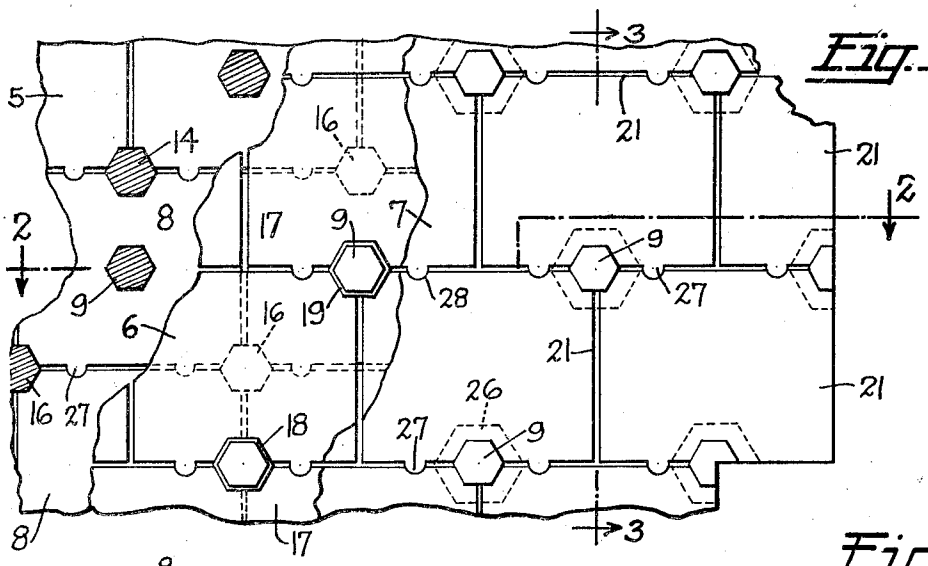


Fig. 1.

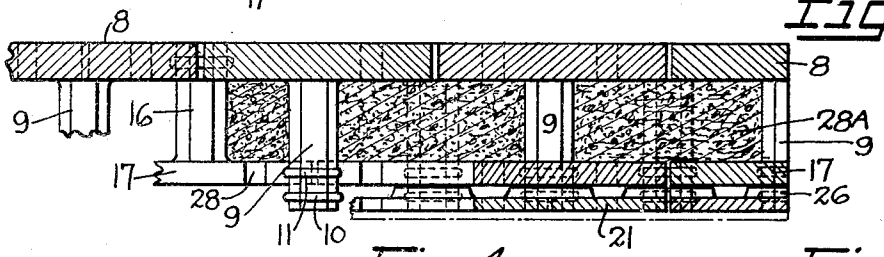


Fig. 2.

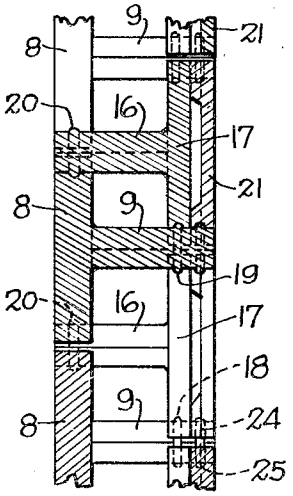


Fig. 3.

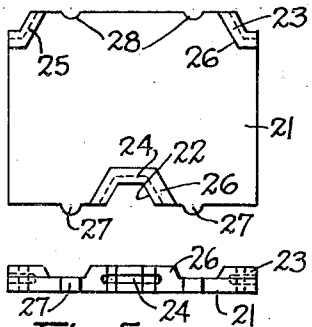


Fig. 4.

Fig. 5.

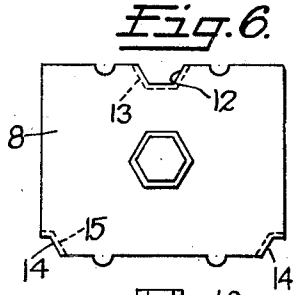


Fig. 6.

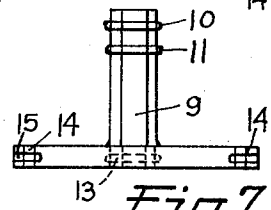


Fig. 7.

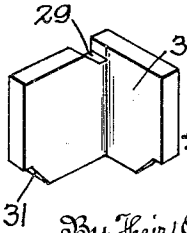


Fig. 8.

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Patented Apr. 7, 1931 1,799,313

UNITED STATES PATENT OFFICE

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BUILDING CONSTRUCTION AND UNIT

Application filed March 14, 1929. Serial No. 346,839.

This invention relates to building blocks or building panels which may be used in wall construction without the necessity of employing mortar or other adhesive to hold them together.

A particular object of the invention is to provide a series of panels or blocks arranged to form a wall and provided with interlocking means so that the wall is not only self-supporting but the parts are so firmly secured together that a filler such as concrete or the like may be used between the wall sections.

A still further object of our invention is to provide in combination with a double wall construction of the character referred to, an auxiliary or inner wall which not only provides a ventilation but may be placed in position at the time that the two main walls are being built up.

A still further and equally important object of our invention is the provision of a wall or partition employing blocks or panel members in which the employment of furring or lathing in order to permit the plastering of the wall is unnecessary.

A still further object of our invention is to provide a wall construction, the outer side of which may be roughened and between the component parts of which may be left slot-like openings for the reception of plaster or mortar so that the same can be firmly anchored to the wall and will permit rapid and proper plastering of the wall due to the fact that the building panels and blocks are solidly retained in perfect alignment.

Another important feature of our invention is the provision of means whereby an endwise shifting of the parts relatively to each other is prevented.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed may be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings:

Figure 1 is a view in front elevation of a section of a wall constructed in accordance with our invention, the wall being broken away to disclose the intermediate wall and the outer wall.

Figure 2 is a section taken on the line 2—2 of Figure 1 and illustrates the use of concrete or other filling material between the outer and the intermediate walls.

Figure 3 is a section taken on the line 3—3 of Figure 1 showing the use of the oppositely extending panel or block shanks which are used to retain all of the walls in proper relation, the filler in this particular instance being omitted for the sake of clearness of illustration.

Figure 4 is a view in elevation of the inner face of one of the inner wall panels.

Figure 5 is an edge view of the panel member illustrated in Figure 4.

Figure 6 is a view in elevation of the inner face of one of the outer wall blocks, the shank thereof being shown.

Figure 7 is an edge view of the wall block illustrated in Figure 6.

Figure 8 is a view in perspective of a corner piece which may be employed in an intersecting wall construction.

Referring to the drawings in detail, and in particular to Figures 1 to 7, the outer wall is designated by the numeral 5, the intermediate wall 6, and the inner wall 7. The outer wall is made up of the blocks 8 illustrated particularly in Figures 6 and 7 and consisting of the shanks 9 extending from its inner face and being cast or moulded to provide at its outer end, the peripherally extending spaced ribs 10 and 11, the blocks being shaped to provide at one edge, a semi-hexagonal reset 12 which is provided with a groove 13. At the opposite edge, the corners of the blocks are provided with seat-like recesses which are of quarter-hexagon shape as at 14, these seats being also provided with grooves 15 and it will be noted that when the blocks are placed end to end to form a wall as illustrated in Figure 1, the recesses 14 form semi-hexagonal seats between them. These seats 14 are arranged to receive the ends of shanks 16 as illustrated in Figure 3 of the blocks or

panels taking up the intermediate wall 6 of the building construction.

These intermediate wall panels or blocks 17 are shaped substantially like the blocks 8 but the semi-hexagonal recess 18 formed therein is on the lower edge of the block 17 while the corner recesses 18 and 19 which are in shape, similar to a quarter of a hexagon are of the upper edge corner, these recesses being indicated in Figure 1 and being arranged to receive the outer portion of the shank 9 formed on the block 8, the seats 18 and 19 respectively being provided each with grooves similar to those shown in connection with Figure 8 for the reception of the ribs 11 formed on the shank 9 of the particular shank with which the seats are associated. The shank 16 formed on the blocks 17 are provided adjacent their outer end with a peripheral rib 20, this rib 20 being arranged to seat in the grooves 15 and 13 formed in the recesses 14 and 12 respectively of the blocks 8.

This construction, it will be noted with regard to the outer and intermediate walls 5 and 6 respectively, will lock the same securely together and maintain them in rigid relation. The inner wall 7 consists of the blocks or panels 21 which are shaped identically the same as the blocks 17, each having, as illustrated in Figure 4, a semi-hexagonal recess 22 cut or formed in its lower edge and having the seat 23 formed at the ends of its upper edge which are quarter-hexagon in shape. Each of the recesses 22 and 23 are provided with the grooves 24 and 25 respectively. Around the edge of each of these recesses 22 and 23 there is cast a correspondingly shaped boss 26 as illustrated in Figure 2 and Figure 3, these bosses permit the inner panel walls to be made much thinner than the intermediate or outer walls providing material, as they do, for the formation of the grooves 24, 25 which are arranged to receive the peripheral ribs 10 formed on the shank 9 of the blocks 8.

All of the blocks and partition pieces are provided with edge stubs 27 and corresponding stud recesses 28 so that when the panels or blocks are positioned in superposed relation, the studs 27 will rest in the stud seats 28 of the subjacent block or panel piece and consequently will prevent endwise shifting of the members, which is very essential to the solid and aligned construction of the walls.

It will be noted that the stubs 27 are so formed that when they are resting in the seat 28, above referred to, a very slight space will be left between the edges of all of the blocks or panel members with the result that on the outer wall and on the inner wall, an anchorage is provided for the mortar coat which may be applied thereto preparatory to plastering the wall. Also this space provided between each of the building units may be corked or filled with any suitable preparation and it will be noted further that the spaces left between the building blocks forming the intermediate walls also provide an anchorage or a concrete filler 28 which may be employed as illustrated in Figure 2, although this filler is illustrated simply to show one of the uses to which our improved building construction can be employed.

It will be particularly noted therefore that the building block 8 with its extension 9 having the spaced peripheral ribs 10 and 11 formed at the end of the shank thereof maintain in proper spaced relation the blocks or panels 17 and 21, the bosses cast on the panels 21 maintaining them in further spaced relation to provide a ventilated wall.

In order that intersecting walls may be properly cornered, the use of a special piece may be resorted to, as illustrated in Figure 8 and this piece formed at any suitable angle may be provided in its corner and at the upper edge thereof with a recess 29 which is of quarter-hexagon shape and which is arranged to receive the end of either a shank 9 or a shank 16 which is of course cut down to suit the the particular requirements. The corner piece 30 is further provided at its lower edge corners with quarter-hexagon shaped recesses 31 which are arranged to seat on the ends of the associated shanks, it being understood that while I have shown the shanks of hexagonal shape, they may be made in any particular shape to suit the purpose for which they are employed, and they may be cut to provide half, quarter or three-quarter hexagon-shaped shanks, the three-quarter, for instance, being illustrated at the lower right hand corner of Figure 1 where the edge of the door opening may occur.

It is evident that we have provided a building construction which is an improvement over the wall construction illustrated and described in the United States Patent No. 1,300,765 in that it provides a double inner wall which eliminates the necessity of using furring or lathing and also dispenses with studding or other supporting constructions which are commonly employed in building walls.

It is also evident that with our improved construction, an air space is provided between the intermediate and the inner wall, the latter of which may be of relatively thin construction and employed to hold the plaster coating which is used to finish the wall, and it is to be understood that the relative thickness of the walls may be varied to suit the conditions as may also the shape of the shanks which are cast on the blocks or panel pieces. The blocks or panel pieces may be constructed of any cementitious material which is capable of being moulded quickly and in large quantities so that the erection of a wall or part of a building may be carried out not only with a saving of labor and time

but also with a saving of material costs to the builders.

While we have illustrated and described our invention with some degree of particularity, we realize that in practice various alterations therein may be made without departing from the spirit of the invention or the scope of the appended claims.

What we claim is:—

1. A wall construction comprising inner, outer and intermediate wall panels, shanks on the outer and intermediate panels, seats for the ends of the shanks in said outer, intermediate and inner panels, the shanks of the outer panels seating in the intermediate and inner panels and the shanks of the intermediate panels seating in said outer panels, and studs and stud seats in the edges of said panels for preventing relative movement of the panels.

2. A wall construction comprising inner, outer and intermediate wall panels, shanks on the outer and intermediate panels, spaced ridges on said outer and intermediate panel shanks, seats formed in said inner, outer and intermediate panels to interlock with said ridges, the seats of the inner panel being thicker than said panel, the shanks of the outer panel seating in the intermediate panels and the shanks of the intermediate panels seating in said outer panels, and studs and stud seats in the edges of said panel for preventing relative movement thereof.

Signed at New York city, in the county of New York and State of New York, this 6th day of March, A. D. 1929.

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ERNST E. L. MONTELIUS. [L. S.]