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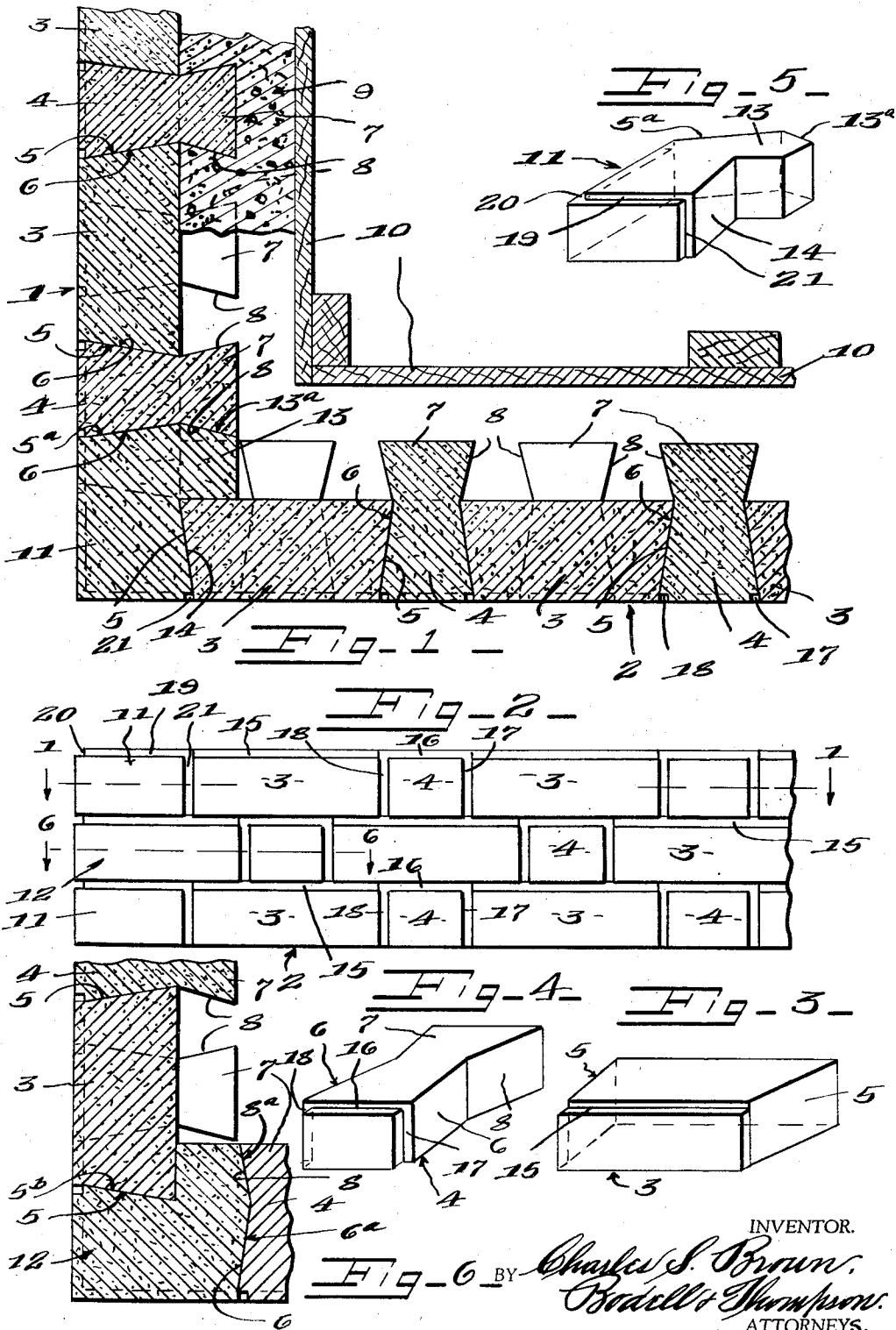
C. S. BROWN

2,214,657

BUILDING STRUCTURE

Filed March 16, 1939

3 Sheets-Sheet 1



INVENTOR.

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Sept. 10, 1940.

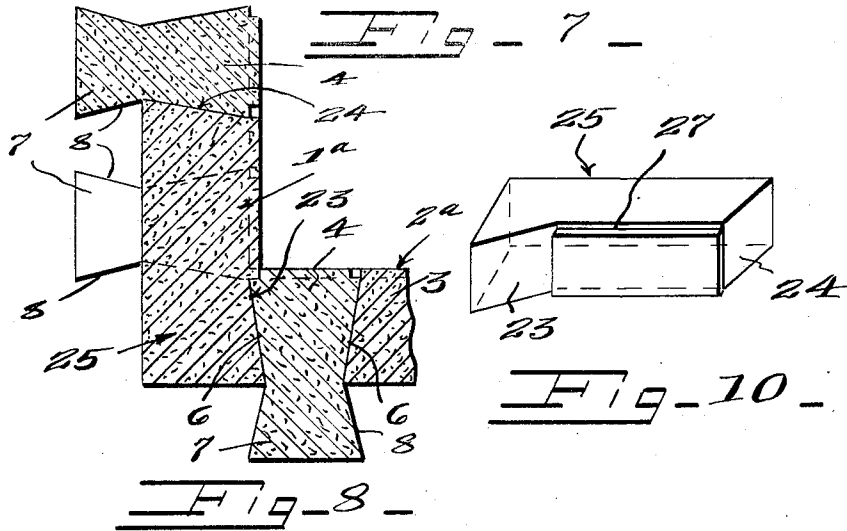
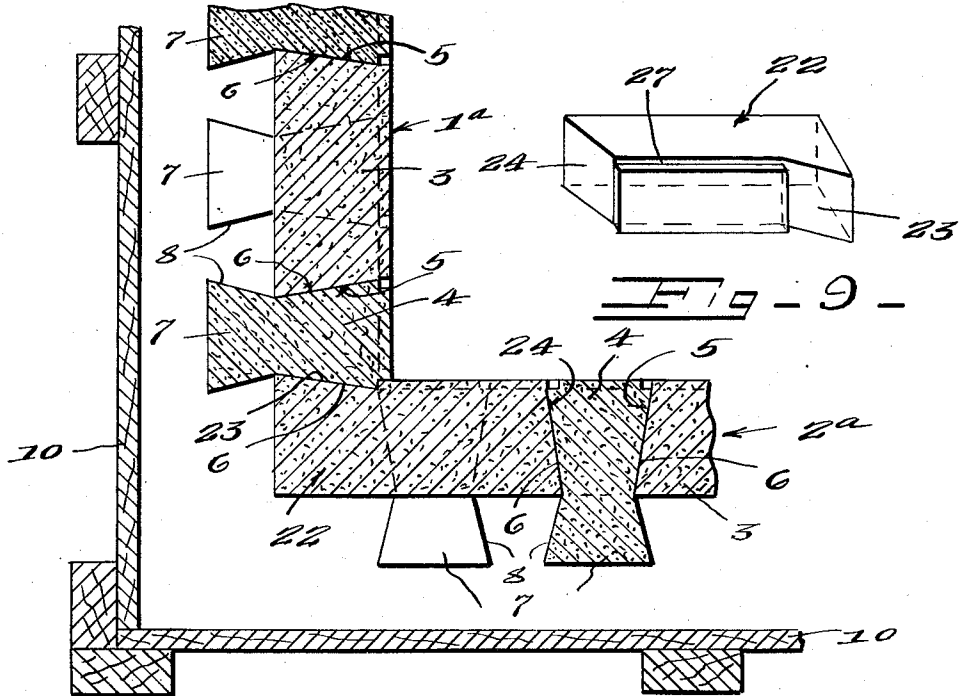
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BUILDING STRUCTURE

Filed March 16, 1939

3 Sheets-Sheet 2



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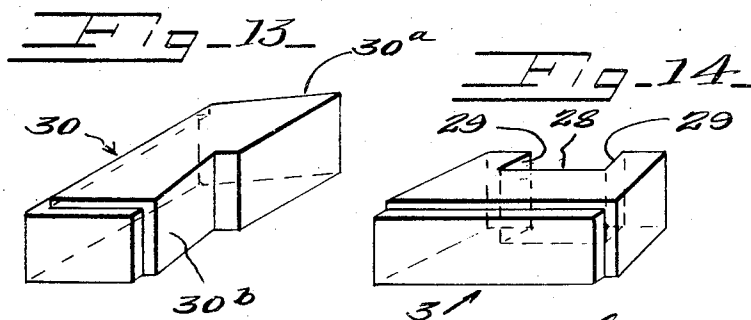
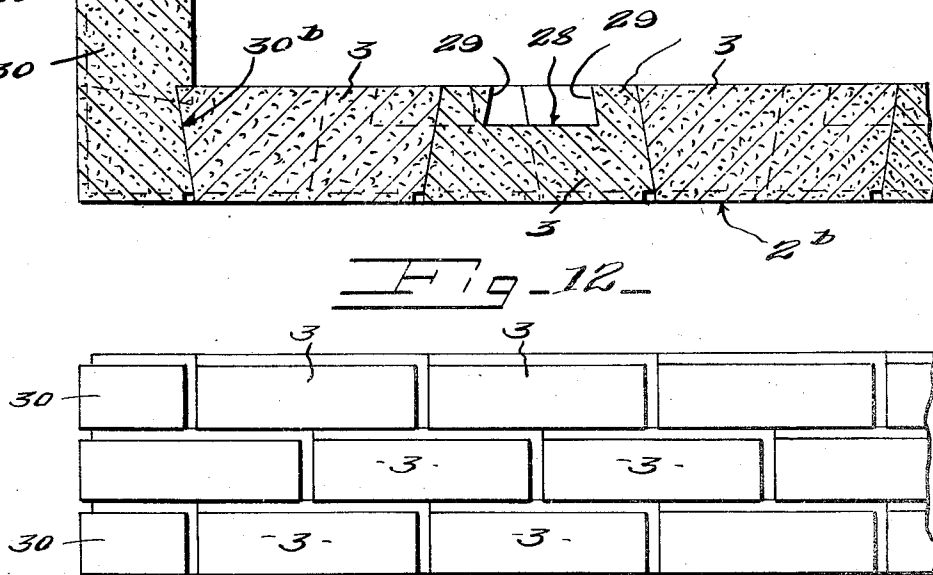
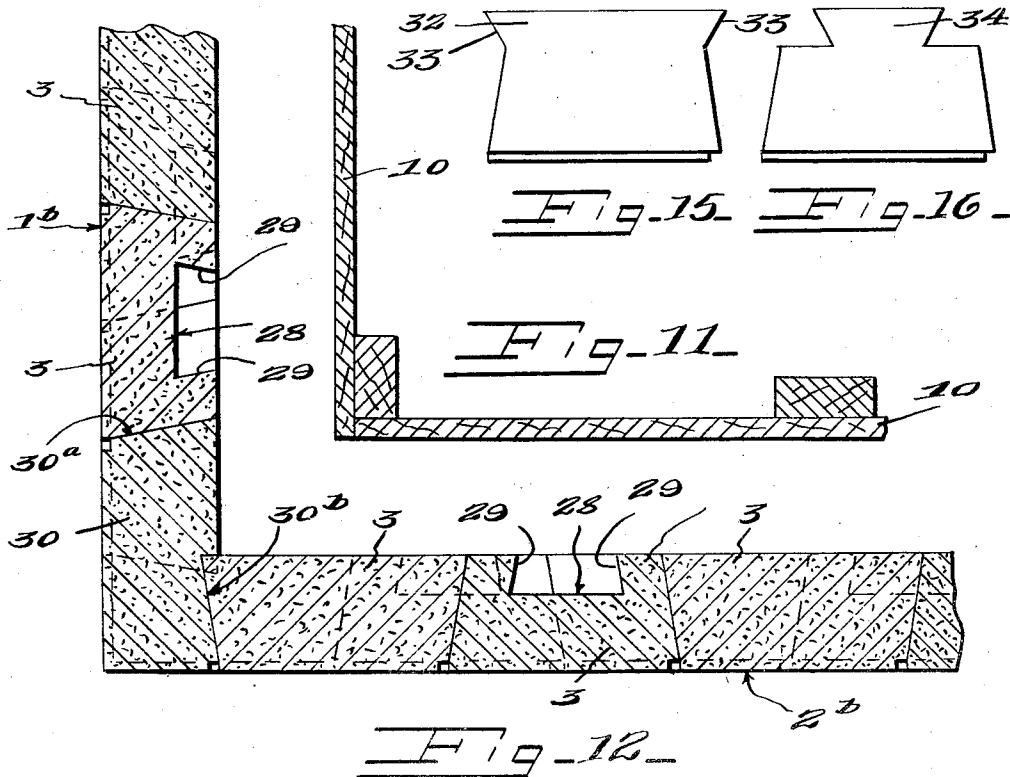
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2,214,657

BUILDING STRUCTURE

Filed March 16, 1939

3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

2,214,657

BUILDING STRUCTURE

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Application March 16, 1939, Serial No. 262,215

5 Claims. (Cl. 72—29)

This invention relates to brick wall structures, and has for its object a wall structure in which the bricks are laid to be held together keystone fashion with what might be called keystone bricks provided with means for receiving a hardenable plastic material forming a backing for the wall, whereby the keystone bricks are held from displacement and hold the other bricks by reason of the keystone formation, from displacement.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawings in which like characters designate corresponding parts in all the views.

Figure 1 is a horizontal sectional view taken on line 1—1, Figure 2, through a wall structure embodying my invention.

Figure 2 is an elevation of the wall seen in Figure 1.

Figures 3 and 4 are isometric views of the individual stretcher and header blocks of the wall shown in Figure 1.

Figure 5 is an isometric view of the corner brick shown in Figure 1.

Figure 6 is a fragmentary sectional view taken on line 6—6, Figure 2.

Figure 7 is a view similar to Figure 1 of a wall structure forming an interior angle in the wall of the building.

Figure 8 is a fragmentary sectional view showing the corner brick arranged in the tier of bricks below or above the tier shown in Figure 7.

Figure 9 is an isometric view of the corner brick shown in Figure 7 and looking downward in Figure 7.

Figure 10 is an isometric view of the corner brick shown in Figure 8, that is, the corner brick for the tier of bricks above or below the tier shown in Figure 7.

Figure 11 is a view similar to Figure 1 of a wall embodying stretcher bricks and no intermediate headers and with a modified form of means for interlocking with the hardenable plastic backing.

Figure 12 is an elevation of the wall seen in Figure 11.

Figures 13 and 14 are isometric views of the corner bricks and one of the keystone bricks shown in Figure 11.

Figures 15 and 16 are plan views of modified forms of the keystone brick shown in Figure 11.

This wall structure includes bricks arranged in tiers with the bricks of each tier abutting

against each other and lying directly on the next underlying tier, each brick having its faces, which confront the next brick in the same tier beveled, and so arranged that the bricks in the same tier are held together keystone fashion and some of the bricks here shown, but necessarily, as alternate bricks in each tier constituting what for convenience is called herein keystone bricks, which keystone bricks are also provided with means for interlocking with a hardenable plastic material forming a backing for the wall structure, so that the keystone bricks are interlocked in the backing, and also by reason of the keystone formation hold the other bricks not interlocked in the backing in position.

1 and 2 designate, respectively, two walls of a wall structure which meet at an angle, and in the wall structure shown in Figures 1, 2 and 6, the bricks in each tier consists of a long brick or stretcher 3 and a relatively narrow brick or header 4 alternating with the stretchers 3. Each stretcher 3 is formed with inclined or beveled end faces 5 which confront complementary beveled side faces 6 on the sides of the adjacent header bricks and the side faces 6 of the headers are undercut or under beveled with respect to the outer face of the wall, so that the headers interlock with the stretchers keystone fashion.

In the form shown in Figures 1 and 4, the header bricks 4 are formed with rearward projections 7, with respect to the outer face of the wall, around which the hardenable material flows when poured, so as to form a backing for the wall structure. These projections 7 are also formed with undercut faces 8, so that the projections are interlocked with the backing designated 9 in Figure 1.

In building the wall, the bricks are laid in tiers, those of one tier directly on the other, and those of each tier abutting against each other. The bricks may be alined by a suitable shoring, not shown, against the outer face of the brick wall. The backing is poured between a shoring 10 and the inner face of the wall, the backing of plastic material flowing around the projections 7, so that when the plastic material hardens, the header blocks are also interlocked with the hardened backing.

11 (Figure 5) designates a corner brick for the tiers similar to the tiers shown in Figure 1, and 12 (Figure 6) a corner brick for the tiers next above and below the tier shown in Figure 1. This corner brick, which is interposed between a header 4 of the wall 1 and a stretcher 3 of the wall 2, is provided with a beveled face 5^a, similar to

the beveled face on each of the stretchers 3, which beveled face 5^a abuts against one of the side faces 6 of the header in the wall 1 and is also provided with a lateral projection 13 complementary to the projection 7 of the header 4. The corner brick 11 is also formed with a beveled face 14 on the side thereof confronting the beveled face 5 of the adjacent stretcher of the wall 2. Owing to the beveled faces 5^a and the projection 13 with the face 13^a complementary to one of the undercut faces 8 of the projection 7 of the adjacent header 4 in the wall 1, the corner brick 14 is held from outward displacement by the adjacent header 4 in the wall 1.

15 In Figure 6, the corner brick 12 is formed with a face 5^b complementary to the beveled end face 5 of the adjacent stretcher 3 in the wall 1 and also with beveled faces 6^a and 8^a complementary to the beveled side faces 6 and 8 of the adjacent keystone header 4 in the wall 2, so that the corner brick 12 is held by the keystone brick 4 from outward displacement.

The bricks, as here shown, are formed on their outer faces to simulate bricks with a raked out joint. This is accomplished by forming the stretcher bricks with grooves or rabbets at 15, the header brick with rabbets at 16, 17 and 18 and the corner bricks with rabbets at 19, 20 and 21.

30 In Figure 7, the walls 1^a and 2^a are shown with the facing sides of the bricks on an internal angle of the wall instead of the exterior angle. The stretcher and header bricks 3, 4 are of the same form, as shown in Figure 1, but the corner bricks, because of the fact that they interlock with bricks on the interior angle of the wall, are different from those shown in Figures 5 and 6, in order to be held in position by the keystone headers. The corner bricks for any two adjacent tiers are practically the same construction, with the exception of the location of the rabbet to simulate the raked joint.

35 In Figure 9, the corner brick for the tier shown in Figure 7 is shown in elevation looking downwardly toward the corner brick 22. It is provided with a beveled face 23 complementary to the beveled side face of the adjacent keystone or header brick 4 of the wall 1^a and with an end beveled face 24 complementary to the beveled side face of the adjacent header or keystone brick 4 of the wall 2^a, so that the two adjacent keystone bricks 4 of the walls 1^a and 2^a interlock or hold the corner brick from displacement.

40 In Figure 10, the corner brick 25 for the tier above or below that shown in Figure 7 is provided with faces for interlocking with the header or keystone bricks 4 of the walls 1^a, 2^a. The difference between the corner bricks 22 and 25 (Figures 9 and 10) is that they are rights and lefts, in order to bring the rabbet 27 for simulating a raked out joint along the upper edges of the bricks. The reason for having the rabbet along the upper side of the brick is that when a plastic material is being poured behind the brick wall facing, some of it leaks between the bricks into the rabbet and flows over the raked out joint simulating a mortar joint whereas if the leak is on the bottom of the joint it will flow on the face of the brick instead.

45 In Figure 11, a wall structure, including walls 1^b and 2^b, is shown meeting at an exterior angle, and the bricks in the tiers, with the exception of the corner bricks, are composed all stretchers 3, that is, bricks of uniform face length and the alternate keystone bricks 3 are formed with recesses 28 having undercut walls 29 for receiving

the hardenable plastic material, when poured, and interlocking the alternate bricks 3 to the backing. These alternate bricks 3 are the keystone bricks in the wall composed of bricks of equal face length.

5 30 designates the corner brick, which is formed with beveled faces at 30^a and 30^b, complementary to the adjacent bricks of the wall 1^b and 2^b and one of which adjacent bricks is a keystone. The keystone brick of the walls 1^b and 2^b are also shown as formed with a fan-tailed projection 32 extending the full length of the brick and having undercut beveled surfaces at 33, as seen in Figure 15, or they may be formed with fan-tailed projections 34, as shown in Figure 16, of less length than that of the keystone stretcher 3, as seen in Figure 15.

10 15 In any form of the invention, the bricks of the wall are held in position by keystone bricks and the keystone bricks interlock with the backing of hardened plastic material.

20 What I claim is:

1. A building structure including bricks arranged in tiers with the bricks of each tier abutting against each other and lying directly on the next underlying tier, the bricks of each tier including alternate stretcher and header bricks, the confronting faces of the header and stretcher bricks being complementally beveled from the front faces of said stretcher bricks to the back faces thereof and so arranged that the header bricks fit between the stretcher bricks keystone fashion.

25 2. A building structure including bricks arranged in tiers with the bricks of each tier abutting against each other and lying directly on the next underlying tier, the bricks of each tier including stretcher and header bricks, the confronting faces of the header and stretcher bricks being complementally beveled from the front faces of said stretcher bricks to the back faces thereof and arranged so that the header bricks fit between the stretcher bricks keystone fashion, the header bricks having rearwardly extending projections embedded in a hardenable plastic material forming a backing for the bricks.

30 3. A building structure including bricks arranged in tiers with the bricks of each tier abutting against each other and lying directly on the next underlying tier, the bricks of each tier including stretcher and header bricks, the confronting faces of the header and stretcher bricks being complementally beveled from the front faces of said stretcher bricks to the back faces thereof and arranged so that the header bricks fit between the stretcher bricks keystone fashion, the header bricks having rearwardly extending projections embedded in a hardenable plastic material forming a backing for the bricks, said projections being wider at their outer ends than where they join the body of the header bricks for interlocking in a hardenable plastic material forming a backing for the bricks.

35 4. A building structure including bricks arranged in tiers with the bricks of each tier abutting against each other and lying directly on the next underlying tier, the bricks of each tier including stretcher and header bricks, the confronting faces of the header and stretcher bricks being complementally beveled from the front faces of said stretcher bricks to the back faces thereof and arranged so that the header bricks fit between the stretcher bricks keystone fashion, the header bricks having rearwardly extending

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projections embedded in a hardenable plastic material forming a backing for the bricks, said projections having flaring sides for interlocking the projections in a hardenable plastic material

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being provided with recesses for receiving a hardenable plastic material forming a backing for the wall, the walls of the recesses being undercut whereby the plastic material interlocks in the recesses.

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