

Sept. 22, 1970

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3,529,390

MASONRY WALL CONSTRUCTION

Filed Aug. 9, 1968

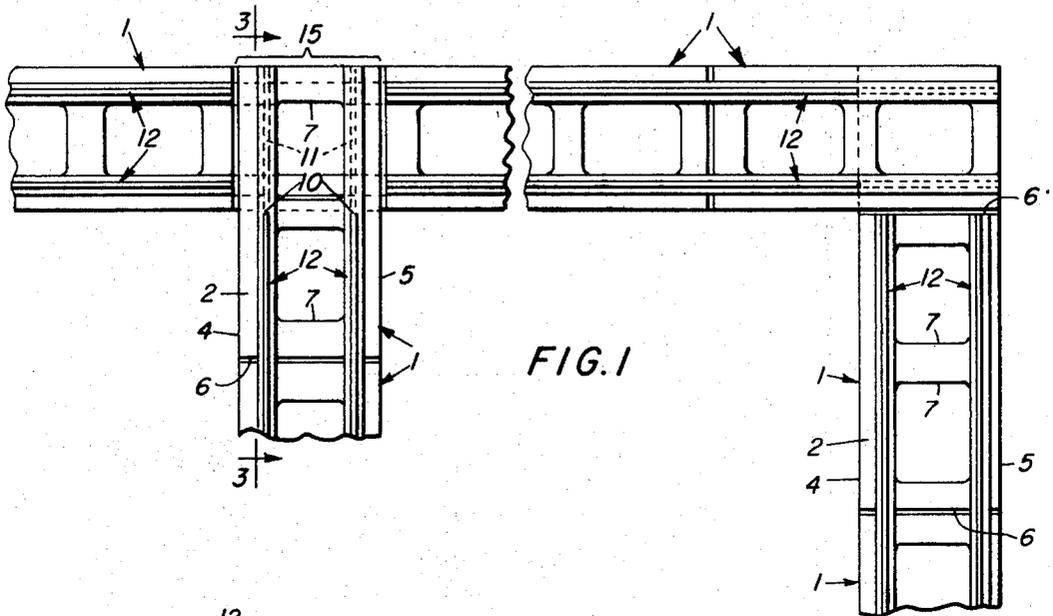


FIG. 1

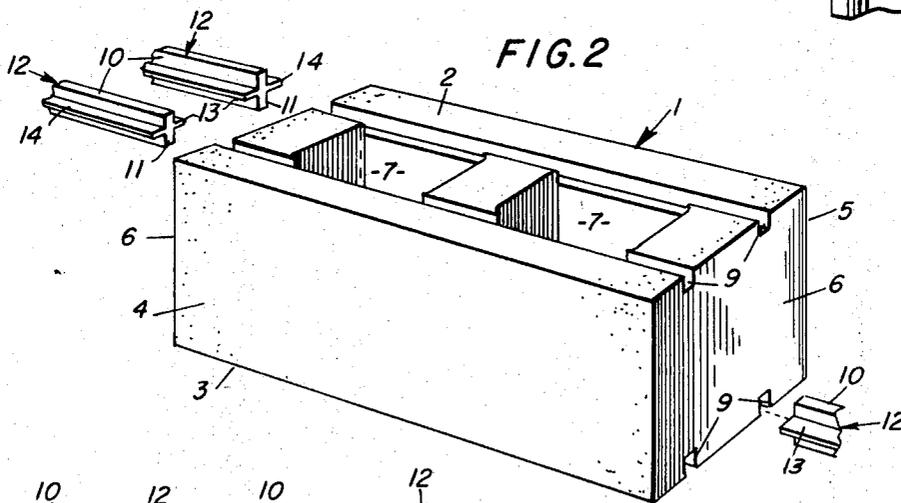


FIG. 2

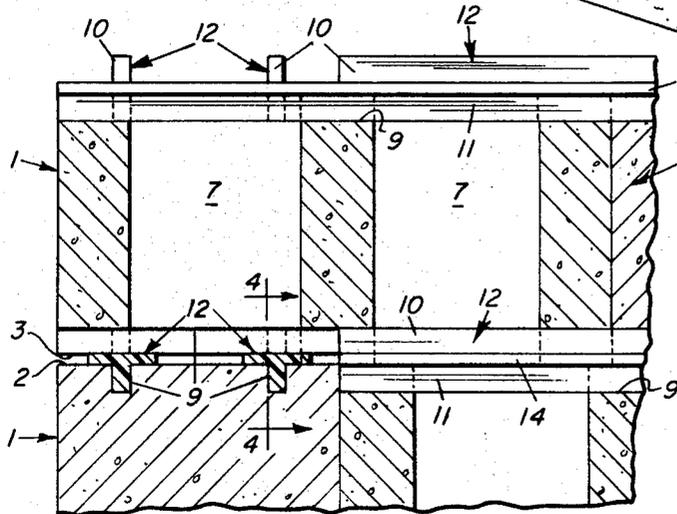


FIG. 3

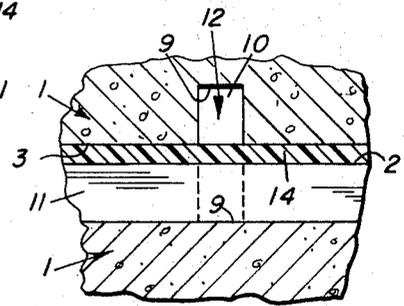


FIG. 4

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**MASONRY WALL CONSTRUCTION**

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Filed Aug. 9, 1968, Ser. No. 751,466

Int. Cl. E04b 2/44; E04f 12/04; E04c 1/10

U.S. Cl. 52-285

2 Claims

**ABSTRACT OF THE DISCLOSURE**

A corner and wall intersection construction in masonry walls built of blocks or bricks with splines extending horizontally between adjacent horizontal courses, the splines having horizontal flanges spacing the courses apart. Also, a masonry wall construction having blocks or bricks of predetermined size, with the wall construction having vertical spacing between horizontal courses and horizontal spacing between the ends of each block of predetermined width, whereby the tendency of cracking of mortar between adjacent courses is reduced, and the strength of the wall is increased.

**SUMMARY OF INVENTION**

This invention relates to masonry walls, such as shown in my prior Pat. No. 2,748,593, granted June 5, 1956, which patent shows splines locking together and spacing apart adjacent horizontal courses, but which does not disclose my corner construction.

It is a primary object of the present invention to provide a corner construction for such walls which is extremely sturdy and strong and which may be constructed quickly and inexpensively by relatively unskilled labor at a relatively low cost.

Another object of this invention is to provide a wall of increased strength which is more quickly and less expensively constructed than conventional walls.

Another object of the invention is to provide a wall of the type referred to having blocks incorporating voids filled with insulating material to lower the heat transfer characteristics of the blocks.

A further object of this invention is to reduce or eliminate the tendency of cracks to be formed in mortar applied between horizontal courses of the blocks and between the ends of adjacent blocks.

With the above and other objects in view which will appear as the description proceeds, the invention consists in the novel features herein set forth, illustrated in the accompanying drawings, and more particularly pointed out in the appended claims.

**THE DRAWINGS**

Referring to the drawings in which numerals of like character designate similar parts throughout the several views:

FIG. 1 is a top plan view of a wall embodying this invention, taken horizontally between two adjacent horizontal courses and including a corner and a place where two walls intersect, forming corners;

FIG. 2 is a perspective view of one of the blocks of the wall, and exploded therefrom are shown end fragments of locking and spacer splines adapted to be associated with the block;

FIG. 3 is a sectional view taken on line 3-3 of FIG. 1; and

FIG. 4 is a sectional view taken on line 4-4 of FIG. 3.

**DETAILED DESCRIPTION**

As stated, the wall is generally of the type disclosed in my prior Pat. No. 2,748,593, and is made up of blocks 1 having a top surface 2 and a bottom surface 3, accurate-

ly parallel to each other and with what may be regarded as a front surface 4, a back surface 5 and end surfaces 6, 6. There may be one or more vertical openings or voids 7 formed in the blocks and which may contain insulating material, such as vermiculite or other inexpensive insulating material, to lower the heat transfer characteristics of the blocks and the wall.

Formed in each of the top and bottom surfaces 2 and 3 of the blocks 1 are a pair of longitudinal, relatively narrow slots or keyways 9. These slots are accurately parallel to each other and are located inwardly a short distance from the front and back surfaces 4 and 5 between these surfaces and the voids 7.

The slots 9, in horizontally adjacent blocks, are in horizontal alignment, and along these adjacent blocks extend metallic or plastic splines 12 bridging vertical joints between adjacent blocks. The splines 12 have an upper vertical flange 10 seated in aligned slots 9 in the bottom surfaces in the blocks of the higher course and have downwardly extending vertical flanges 11 seated in slots 9 in the upper surfaces of the adjacent under course of blocks. The splines also have oppositely extending horizontal spacer flanges 13, 14 extending right angularly from the meeting zone of the vertical flanges 10 and 11 and are of a thickness which determines the vertical spacing apart of the two adjacent courses of the blocks.

In accordance with this invention, the blocks, at the corners of the wall or where two walls intersect, are so layed or so formed that alternate horizontal courses have recesses as at 15 into which the ends of blocks of the corresponding course of the other wall extend or through which the corresponding blocks of the other wall extend. Since splines are normally placed on blocks on their upper side only as the wall is constructed, the splines on the upper side of the block are cut off entirely at the ends of the blocks forming the boundaries of the recesses. Where a block of one wall enters through the recesses on the other wall, the vertical flange on the upper splines extending outwardly from the block is cut off between the two adjacent horizontal courses, as shown best in FIG. 4. Thus, by having only one set of splines where the blocks cross each other, with only one vertical flange thereon and its horizontal flanges, the spacing between the horizontal courses of the blocks at corners and at wall intersections conforms to the spacing between the horizontal courses of the rest of the wall. Thus, where blocks or portions thereof cross each other, there is no interference from vertical flanges of the splines, and the vertical spacing between the crossing blocks is the same as that at other portions of the wall.

Applicant's blocks, when planed and leveled, are designed to be  $7\frac{15}{16}$ " high by  $7\frac{7}{8}$ " thick by  $15\frac{1}{16}$ " long, instead of the conventional size of  $7\frac{7}{8}$ " high by  $7\frac{7}{8}$ " thick and  $15\frac{7}{8}$ " long. Whereas the conventional wall has  $\frac{3}{8}$ " of mortar between the ends of adjacent blocks and between both the top and bottom courses of blocks, applicant's blocks have  $\frac{1}{16}$ " of mortar between the ends of the blocks, due to manual spacing, and  $\frac{1}{16}$ " of mortar between the courses of blocks, due to the thickness of flanges 13 and 14 therebetween. As a consequence, in applicant's wall, the number and severity of cracks which always come between blocks as the mortar between them shrinks is substantially reduced.

The mortar is applied to the wall surfaces by spray or other means. As it enters the spaces between the blocks, it joins them together. If mortar is sprayed over the entire surface, as explained in my patent previously referred to, it also creates a new surface, waterproofs it, and paints it (where paint is added to the mortar), and thus four operations can be carried out in one operation. Tests now show that applicant's wall is four times stronger than

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conventional masonry wall. Thus, while applicant was originally seeking speed in construction, these other unobvious advantages have been obtained.

From the foregoing, it is believed that the invention may be readily understood by those skilled in the art without further description, it being borne in mind that numerous changes may be made in the details disclosed without departing from the spirit of the invention as set forth in the following claims.

I claim:

1. In a wall construction of rectangular masonry blocks laid in horizontal courses, the top and bottom surfaces of each of said blocks having at least one horizontal slot extending the full length of the block and aligned with the slots of the horizontally adjacent blocks of each course, rigid splines of cruciform cross-section having upper and lower, continuous, vertical flanges seated respectively in the slots in the bottom and top surfaces of adjacent courses of blocks and bridging the vertical joints between adjacent blocks, said splines also having horizontal flanges, one on each side of respective vertical flanges bridging said joints between said blocks, said horizontal flanges being of a thickness determining the spacing apart of adjacent courses of blocks; the combination with said wall construction of similar intersecting walls forming corners, with portions of the blocks of alternate courses of one intersecting wall disposed at right angles between the two vertically adjacent blocks of the other wall, each of the splines engaging the corner block of one course, running lengthwise of one wall, being entirely cut off at the point where it meets the vertical side of

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the intersecting, right angularly disposed block running lengthwise of the other wall and disposed in a vertically adjacent course of blocks, and each of said splines engaging the blocks of one wall, where they meet the vertical side of the right angularly disposed block in the same course, running lengthwise of the intersecting wall, having their upper vertical flanges removed, the horizontal flanges of said last-named splines maintaining the spacing apart of the vertically adjacent blocks at the corners of each course.

2. The combination as claimed in claim 1, wherein the top and bottom surfaces of each of said blocks is provided with a pair of laterally spaced, horizontal slots and rigid splines of cruciform cross-section are disposed in each of said pair of slots.

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JOHN E. MURTAGH, Primary Examiner

U.S. Cl. X.R.

52—447, 421, 586