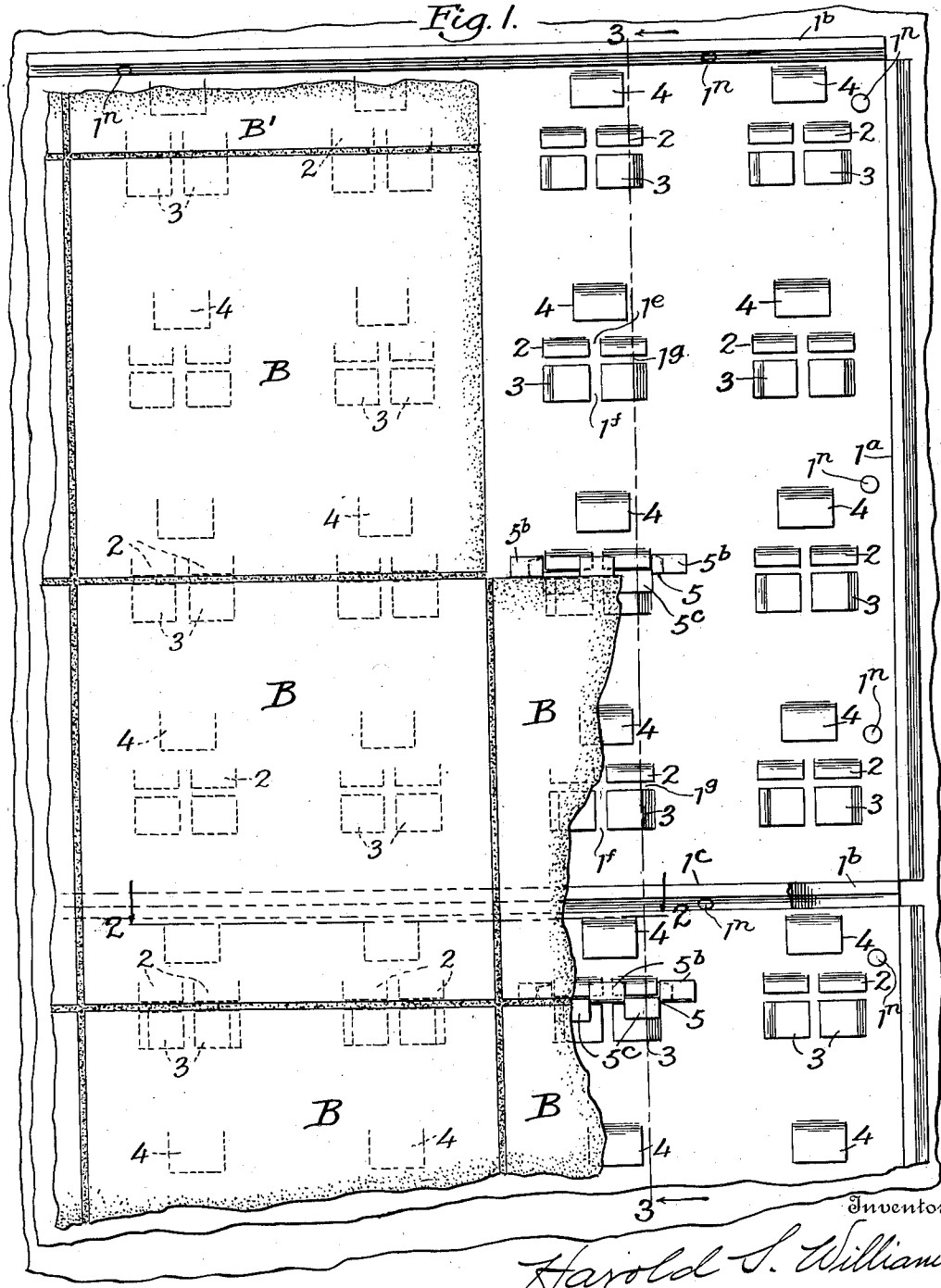
Nov. 27, 1934. H. S. WILLIAMS 1,982,560

MEANS FOR ATTACHING TILE OR BLOCKS TO WALLS

Filed March 31, 1934 2 Sheets-Sheet 1

Fig. 1.



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Fig. 2.

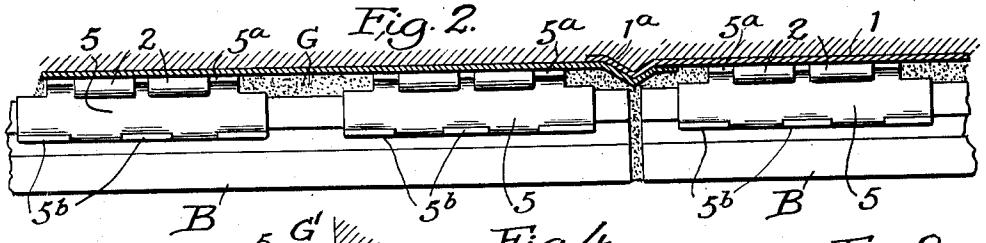


Fig. 3.

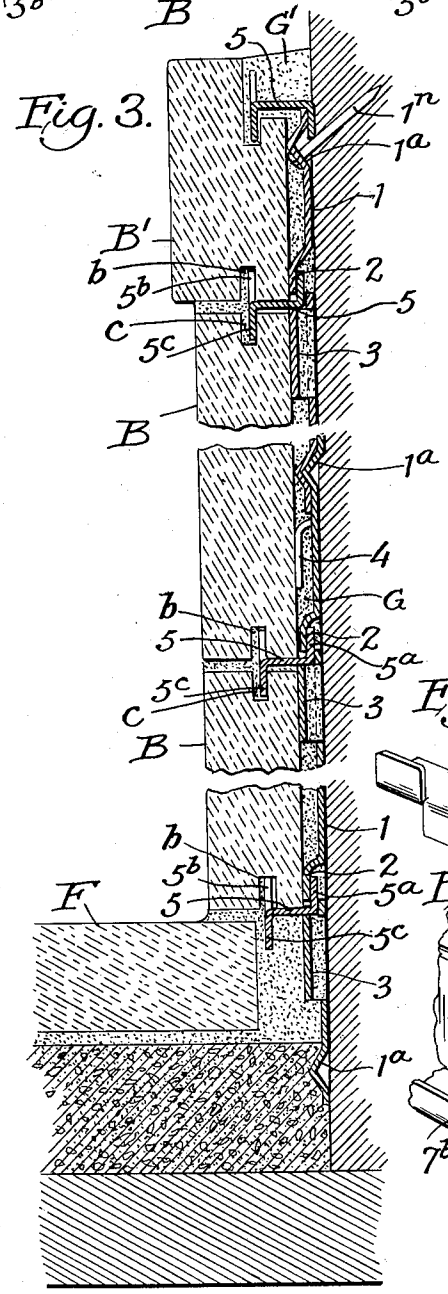


Fig. 4.

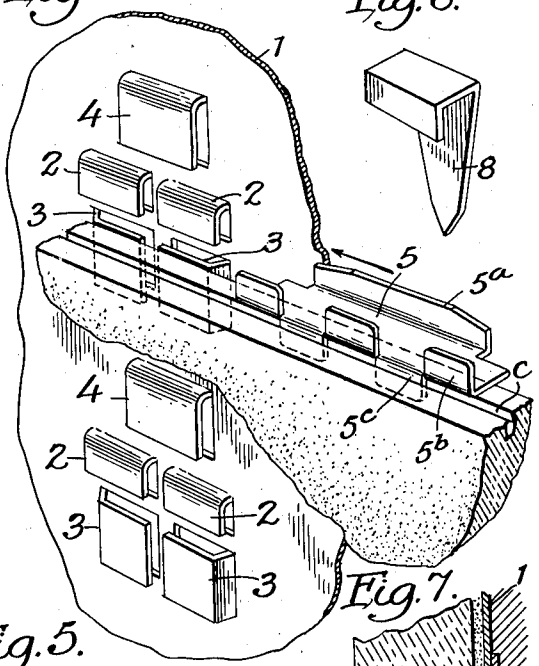
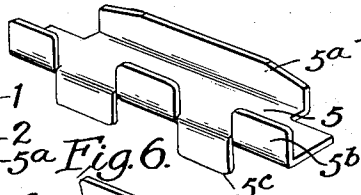


Fig. 8.

Fig. 5.

Fig. 6.



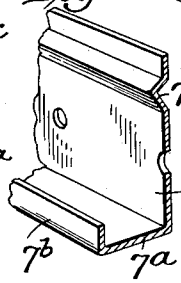
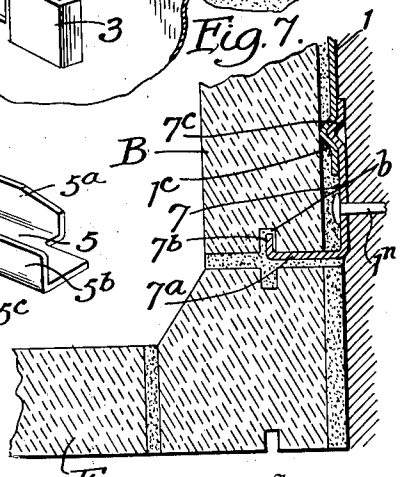


Fig. 7.



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MEANS FOR ATTACHING TILE OR BLOCKS TO WALLS

Harold S. Williams, Oak Park, Ill., assignor to Rostone, Incorporated, La Fayette, Ind., a corporation of Indiana

Application March 31, 1934, Serial No. 718,494

14 Claims. (Cl. 72—19)

This invention is a novel improvement in means for attaching tiles or wall blocks to walls. The objects of the invention are to enable the tile to be quickly applied to a wall; to enable different sizes of tile to be applied to the same wall; and to enable the tile to be interchangeably applied.

The invention permits a great variety of sizes to be used interchangeably giving various designs and patterns. It also enables tiles to be set by unskilled labor, and with greater accuracy than in ordinary tile setting methods. Furthermore, it allows the tile setter to make changes in the pattern after the tile has been applied in the pattern first desired, provided that the final step of forcing joining cement into place has not been taken. The invention can be used on either old or new walls, regardless of size, if fairly flat.

The invention is used in connection with tile accurately cut to size and grooved by the manufacturer; and due to the great variety of sizes of such tile available very little cutting of tile is required where my invention is employed.

In the accompanying drawings I have illustrated one practical embodiment of the invention and will describe the same with reference thereto. In the claims are set forth the essentials of the invention and novel features of construction and combinations of part for which protection is desired.

In said drawings:

Fig. 1 is a front elevation partly broken away of a portion of a tiled wall embodying my invention.

Fig. 2 is an enlarged horizontal section through such a wall on the line 2—2, Fig. 1.

Fig. 3 is an enlarged vertical section through such a wall on the line 3—3, Fig. 1.

Fig. 4 is a detail perspective view indicating the mode of applying the tile attaching clips to the backing sheet.

Fig. 5 is a detail view of one of the clips.

Fig. 6 is a perspective view of part of an auxiliary bottom strip employed in certain constructions.

Fig. 7 is a vertical section showing the manner of applying the auxiliary strip 7.

Fig. 8 is a perspective view of a top clip that may be used in some cases.

The invention in brief includes a metal backing sheet 1 adapted to be attached to the wall or framing to which the tile or blocks are to be attached, said sheet being provided with peculiarly disposed and related projecting tongues 2 and 3 adapted to retain block supporting clips and hold the tile or block B spaced from the backing sheet. It further includes clips 5 detachably attachable to the backing sheet and having flanges adapted to engage retaining tongues on the backing sheet, and other flanges or teeth adapted to engage grooves or interlocking portions of the tiles, to secure them in place.

The backing sheet 1 is preferably made of sheet steel, and provided with groups of projecting tongues or lips 2, 3 and 4. The tongues are preferably formed by partially punching out portions of the sheet, as shown in the drawings. The groups of tongues are accurately and uniformly spaced, throughout the surface of the sheet. The sheets 1 should be punched for the passage of retaining screws or nails 1*n*.

Preferably the side edges of the sheet are beaded as at 1*a* and their upper and lower edges are beaded as at 1*b*, 1*c*. The beaded edges of adjacent sheets are overlapped, as indicated in Fig. 1 so as to accurately align each sheet with the next adjacent sheets, on the wall, preparatory to the application of the tile.

The tongues 2 in each group are preferably arranged in pairs, each tongue depending vertically and connected at its upper end to the sheet and their inner ends are separated by a narrow vertical portion 1*e* of the sheet. Below the tongues 2 in each group are pairs of tongues 3 which extend horizontally towards each other and are connected to the sheet at their outer ends, while their inner ends are free. The inner ends of tongues 3 are also preferably separated by a narrow vertical portion 1*f* of the sheet. The tongues 3 are also separated from the tongues 2 by a narrow strip portion 1*g* of the sheet.

The tongue 4 in each group is disposed above the pair of tongues 2 its upper end being attached to the sheet and its lower end free.

The tile or blocks are secured to the backing sheets by detachable insertable clips 5 (Fig. 4). The clips are preferably formed of sheet metal; and each has an upwardly projecting flange 5*a* on its rear edge, and upwardly and downwardly projecting teeth or flanges 5*b*, 5*c* on its outer edge adapted to engage retaining grooves or devices in the tiles or blocks B.

The tongues 2 are punched out away from the sheet, just far enough to allow the flange 5*a* of a wedge clip 5, to pass thereunder after the teeth 5*c* of the clip 2 have been engaged with a groove in the tile B (see Fig. 4) and holds the tile snugly in place against the action of the spring tongues 3 and 4. The tongues 3 and 4

act as springs and press against the back of the tile pushing it away from the backing sheet 1. The tongues 3 also hold the clips 5 in horizontal position and support the clips 5 under the weight of the superimposed tiles. The strips 1*e*, 1*f*, 1*g* (integral parts of sheet 1) assist in supporting the clips 5, and prevent them from cocking out of alignment.

In the drawings the tiles B are shown as provided with longitudinal grooves *b*, *c*, in their lower and upper edges which are respectively engaged with the flanges or teeth 5*b*, 5*c* of the clips 5, when the latter are in place. I do not, however, consider my invention limited to the use of grooves as the tiles and clips might be provided with other interengaging devices to secure the tiles in place.

After sheets 1 have been secured to the wall to which the tile or blocks are to be applied, clips 5 are slipped laterally into position upon and above the lowest row of tongues 3 and under the lowest row of tongues 2 (see Fig. 3). The lowermost tiles B are then placed on these clips so that the grooves *b* in their lower edges are engaged with the teeth 5*b* of the clips. The tiles are of such size that their top edges align with a superposed row of tongues (2, 3). Then other clips 5 are positioned above the tile with the teeth 5*c* engaging groove *c* (see Fig. 4) and slid endwise into position beneath tongues 2 and over tongues 3, thus securely holding the tile in position against the action of tongues 3 and 4. It should be noted that the tile B can be of a length and height sufficient to cover several rows of tongues, as such covered tongues would not hinder the application of the tile; but the clips 5 are only used at the top and bottom edges of the tile.

When the clip 5 is slid horizontally into place under tongue 2, a slight wedging action is desirable. This wedging action is obtained by sloping the top edges of the flange 5*a* of the clip adjacent its ends as shown in Figs. 4 and 5.

The spring tongues 3 and 4 force the tile B outward against the holding action of the clip 2, and the space behind the tile can be filled with cement or sealing material G.

After the tiles have been applied and the pattern approved, the open joints between the tiles are sealed by jointing cement, or other suitable material. The sealing material is preferably forced into the joints between the tiles with a gun having a nozzle that covers the joints, and when pressure is applied on the plunger of the gun, the sealing material is forced into the joints and behind the tile into the spaces provided by the spring clip. When the sealing material has set the tiles will be permanently held in place.

When the sheets 1 can be attached to the wall before the flooring is laid, the lower sheets are applied to the wall so that the lower ends of the lowermost row of tongues 2 will be about flush with the upper surface of the finished floor; and when the job is completed the flooring F (which may be of cement or any other suitable material) is about flush with the upper edge of the lowermost tongues 3, as shown in Fig. 3.

In cases where the floor has been already laid, or where it is impractical to use clips 5 to secure the bottom edge of the lowermost tile; the auxiliary bottom strip 7 may be employed (see Figs. 6 and 7). The strip 7 is provided with an outwardly extending bottom flange 7*a* having on its outer edge a lip 7*b* adapted to engage the grooves *b* in the lower tiles B. The upper edge of the back portion of the strip is provided with a bead 7*c* adapted to be engaged with the bead 1*c* on the lower edge of the lowermost sheets 1 as indicated in Fig. 7.

The top finishing tiles B′ may be thicker than the tiles B; and the space between the upper edge of the tile B′ and the wall can be filled with grouting as indicated at G′.

If desired instead of securing clips 5 the upper edge of the finishing tile B′ could be secured by wedge clips such as 8 indicated in Fig. 8.

Various size tile can be used with my invention; based on an *x* unit dimension. That is, the size of the tile are all a multiple of *x* and the groups of tongues on the backing sheet spaced at *x* intervals. A great variety of designs may be obtained by using different sizes of tile, rather than using only one size. Such combinations are abundant.

By my invention the tile can be quickly and accurately set, and more economically, since unskilled labor can be used.

I claim:—

1. Means for attaching tile to walls; including a backing sheet having groups of spaced projecting tongues arranged in relation to tile dimension, and clips respectively detachably engageable with a group of said tongues and having members adapted to detachably engage the tile to secure them to the sheet.

2. Means for attaching tile having grooved edges to walls; including a backing sheet having groups of spaced projecting tongues, and clips respectively detachably engageable with a group of tongues, said clips having outwardly projecting flanges provided with members adapted to detachably engage grooves in the edges of the tile to retain them in place.

3. Means for attaching tile to walls comprising a backing sheet having spaced groups of projecting tongues, each group including a clip retaining tongue and an adjacent clip supporting tongue; and detachable clips adapted to be engaged with the retaining tongues and rest upon the supporting tongues and having retaining members adapted to engage the tile to secure them to the sheet.

4. Means for attaching tile to walls; comprising a backing sheet having spaced groups of projecting tongues, each group including a downwardly projecting tongue and an adjacent underlying horizontally projecting tongue; and clips having portions adapted to be engaged with the downwardly projecting tongues and rest upon the supporting tongues and having members adapted to engage interengaging members on the tile to fasten the tile to the sheet.

5. Means for attaching tile to walls comprising a backing sheet having spaced groups of projecting tongues, each group including a downwardly projecting tongue and an adjacent underlying horizontally projecting tongue; and clips having portions adapted to be engaged with the downwardly projecting tongues and supported by the horizontally supporting tongues, and outwardly projecting flanges provided with portions adapted respectively to engage grooves in the edges of the tile to retain them in place.

6. Means for attaching tile to walls, including a backing sheet having spaced projecting tongues and edge portions adapted to interlock with edge portions of adjacent sheets, and clips detachably engageable with said tongues and having retaining members adapted to engage the tile to secure them to the sheet.

7. Means for attaching tile to walls, including a backing sheet having spaced projecting tongues and edges adapted to interlock with adjacent sheets, clips detachably engageable with said tongues and having retaining members adapted to engage the tile to secure them to the sheet, and an auxiliary bottom strip having means for retaining the lower portions of the lowermost tiles.

8. Means for attaching tile to walls; including a backing sheet having spaced projecting tongues and beaded edges, and clips detachably engageable with tongues of the groups, said clips having outwardly projecting flanges provided with members adapted to engage grooves in the edges of the tile to retain them in place, and an auxiliary bottom strip beaded on its upper edge, and having a lip adapted to engage the bottom groove in the lower tile.

9. Means for attaching tile to walls comprising a backing sheet having beaded edges for engagement with adjacent sheets and spaced groups of projecting tongues, each group including a clip retaining tongue and an adjacent clip supporting tongue; and clips having portions adapted to be engaged with the retaining tongues and rest upon the supporting tongues, said clips having retaining members adapted to engage the tile to secure them to the sheet.

10. Means for attaching tile to walls comprising a backing sheet having beaded edges for engagement with adjacent sheets and spaced groups of projecting tongues, each group including a clip retaining tongue and an adjacent clip supporting tongue; clips having portions adapted to be engaged with the retaining tongues and rest upon the supporting tongues, said clips having retaining members adapted to engage the tile to secure them to the sheet and an auxiliary bottom strip having means for retaining the lower portions of the lowermost tiles.

11. Means for attaching tile to walls; comprising a backing sheet having spaced groups of projecting tongues, and edges adapted to interlock with adjacent sheets; each group of tongues including a downwardly projecting tongue and an adjacent underlying horizontally projecting tongue; and clips having portions adapted to be engaged with the downwardly projecting tongues and rest upon the supporting tongues and having the members adapted to engage interengaging members on the tile to fasten the tile to the sheet.

12. Means for attaching tile to walls; comprising a backing sheet having spaced groups of projecting tongues and edges adapted to interlock with adjacent sheets; each group of tongues including a downwardly projecting tongue and an adjacent underlying horizontally projecting tongue; and clips having portions adapted to be engaged with the downwardly projecting tongues and rest upon the supporting tongues and having the members adapted to engage interengaging members on the tile to fasten the tile to the sheet, and an auxiliary bottom strip beaded on its upper edge and having a lip adapted to engage the bottom groove in the lower tile.

13. Means for attaching tile to walls comprising a backing sheet having spaced groups of projecting tongues, each group including a pair of downwardly projecting spaced tongues, and an adjacent underlying pair of horizontally projecting tongues; and clips having portions adapted to be engaged with the downwardly projecting tongues and supported by the horizontally supporting tongues, and outwardly projecting flanges provided with portions adapted to engage the tiles to retain them in place.

14. Means for attaching tile to walls comprising a backing sheet having spaced groups of projecting tongues, each group including a pair of downwardly projecting spaced tongues, an adjacent underlying pair of horizontally projecting tongues; and edges adapted to interlock with adjacent sheets; clips having portions adapted to be engaged with the downwardly projecting tongues and supported by the horizontally supporting tongues, and outwardly projecting flanges provided with portions adapted to engage the tiles to retain them in place.

HAROLD S. WILLIAMS.